

UNIVERSITÉ DE SHERBROOKE

Faculté d'éducation

**La tricherie au CÉGEP: Causes et solutions possibles**

Cheating in CEGEP: Causes and Possible Solutions

Par

Anne-Marie Gremeaux

Essai présenté à la Faculté d'éducation  
En vue de l'obtention du grade de  
Maître en enseignement (M. Éd.)  
Maîtrise en enseignement au collégial

May 2019  
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Anne-Marie Gremeaux

a été évalué par un jury composé des personnes suivantes:

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## **ABSTRACT**

Academic dishonesty is not new and is a worldwide phenomenon. It is a problematic that every academic institution must deal with and higher education is, unfortunately, not immune to cheating. Studies pertaining to cheating have been done in various universities, but none have been done on CEGEP students and none have tried to establish a link between in-class examination cheating and types of assessment. The following quantitative research studied the link between students' stress levels and types of assessment while addressing in-class academic dishonesty. Students' ethics regarding cheating was addressed as well as their personal experiences with cheating during in-class examinations. An online anonymous survey was used in order to gather data.

This research has helped understand that JAC students are under a lot of stress and are no different than other higher education students since they too, also cheat in large numbers. Nonetheless, students have an ethical opinion regarding academic dishonesty. They recognise it is wrong and they are capable of labelling cheating behaviour according to its gravity. Despite all of this, we have discovered that when students help each other cheat during written in-class exams, it is not judged as severely. Yet, students who admitted cheating do not overlook cheating as much as those who do not cheat. Honest students tend to view cheating behaviour as a much more serious issue. This research has also highlighted the fact that only a few students believe assessments used in their courses are effective at evaluating their level of understanding of course concepts.

Students have been extremely open pertaining to their behaviour. They have explained why they cheat and how they do it. This research has also confirmed that technology plays a smaller role in academic dishonesty than previously assumed. This contradicted what was said in the literature. Undoubtedly, results obtained through our survey indicate that the types of exam given influences students' incentive to cheat. In fact, 81 percent of students admitted cheating because of a loss of memory. Since memorization is not the primary tool required to complete an open-book exam, students tend to cheat less during this type of examination as they have access to their course material. Open-book exams (primarily) as well as cheat-sheet exams (secondly) generate the lowest incentive to cheat amongst students as well as the lowest stress level. Finally, we were

surprised to learn that most students prepare for an open-book exam. We initially thought the opposite. The aim of this research was to find solutions to decrease students' incentive to cheat. Our research results show that open-book assessments are a good solution to decrease academic dishonesty and stress levels during in-class examinations.

## RÉSUMÉ

La tricherie à l'école n'est pas un phénomène nouveau ni spécifique à un pays. Elle est internationale. Il s'agit d'un problème qui touche toutes les institutions scolaires y compris celles des études supérieures qui ne sont pas immunisées contre la tricherie.

Plusieurs études au niveau universitaire ont été effectuées sur ce phénomène mais aucune n'a été menée dans des CEGEP et aucune n'a tenté d'établir un lien entre la tricherie et le type d'examen donné aux élèves. La présente recherche quantitative a étudié le lien entre le niveau de stress des étudiants et la tricherie durant des examens écrits en classe. Parallèlement, notre étude s'est également concentrée sur l'éthique des étudiants concernant la tricherie ainsi que leurs expériences personnelles de triche. Un questionnaire électronique anonyme (Survey Monkey) a été utilisé afin d'amasser les données.

Notre étude a confirmé que les étudiants de JAC sont très stressés et ne sont pas différents du reste des étudiants aux études supérieures car, eux aussi, trichent. Malgré cela, il n'en demeure pas moins qu'ils possèdent une certaine opinion éthique concernant la tricherie. Ils reconnaissent que tricher est immoral, injuste et ils sont capables d'étiqueter ce comportement selon sa gravité. En revanche, nous avons découvert que, lorsqu'il s'agit d'entraide au moment d'examens, ils jugent ce comportement de façon moins sévère que lorsqu'un étudiant triche en solitaire, sans l'aide d'un autre. Dans la même ligne d'idée, les étudiants qui admettent tricher sont plus tolérants voire indifférents face à ce comportement que ceux qui ne trichent pas. Les étudiants honnêtes jugent la tricherie de façon beaucoup plus sévère.

Notre recherche a également souligné le fait que les étudiants trouvent que les méthodes utilisées afin d'évaluer leurs connaissances et compréhension du matériel enseigné sont inefficaces.

Nous avons été surpris de l'ouverture et de l'honnêteté des étudiants concernant leurs comportements déviants. Ils nous ont expliqué pourquoi ils trichaient et comment ils le faisaient. Par exemple, ils trichent afin d'améliorer leurs notes mais également selon le type d'examen donné



en classe. De plus, lorsqu'ils n'ont que la mémorisation comme outil lors d'un examen ou lorsqu'ils sont incapables de se rappeler de faits et données, ils ont tendance à tricher plus fréquemment. En outre, 49 pour cent des étudiants ont admis partager le scénario d'un examen pratique et considérer cela comme une tricherie négligeable.

Notre recherche a également confirmé que la technologie joue un rôle plutôt secondaire lorsque les étudiants trichent. Nous pensions le contraire et ce fait contredit également ce qui a été rapporté par d'autres recherches.

Conséquemment, les résultats obtenus par notre recherche démontrent que le type d'examen utilisé influence les comportements déviants des étudiants. Ainsi, 81 pour cent des étudiants ont admis tricher lorsqu'ils sont incapables de se rappeler la matière couverte dans l'examen. Puisque la mémorisation n'est pas nécessaire afin de compléter un examen à livre ouvert, les étudiants ont tendance à moins tricher lorsqu'ils passent ce type d'examen puisqu'ils ont accès à leurs livres et notes de cours. De plus, les examens à livre ouvert ainsi que les examens où un aide-mémoire est permis, sont les types d'examens qui génèrent le plus bas taux de tricherie ainsi que le plus bas taux de stress. Finalement, nous avons également été surpris d'apprendre que, contrairement à ce que nous croyions au départ, la grande majorité des étudiants étudient pour un examen à livre ouvert.

Le but de notre recherche était de trouver des solutions afin de diminuer la tendance des étudiant à tricher. En répondant à notre questionnaire en ligne, les étudiants ont été très francs et nous ont aidé à mieux comprendre les raisons qui les poussent à tricher. Ils nous ont également éclairé quant à de nouvelles idées et techniques que l'on pourrait utiliser afin de réduire la tricherie lors d'examens écrits et abaisser leur niveau de stress. Les résultats obtenus par notre recherche sont on ne peut plus clairs : les examens à livre ouvert sont une très bonne façon de réduire l'incitation à la tricherie. C'est pourquoi nous croyons que la première solution pour freiner les tricheurs serait de faire passer à nos étudiants des examens à livre ouvert avec pour conséquences positives une réduction importante du stress et un encouragement à ne pas tricher.

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## **LIST OF ABBREVIATIONS, INITIALISMS, AND ACRONYMS**

CEGEP	Collège d'Enseignement Général et Professionnel
JAC	John Abbott College
PC	Paramedic Care
PT	Police Technology
REB	Research and Ethics Board
YACI	Youth and Adult Correctional Intervention

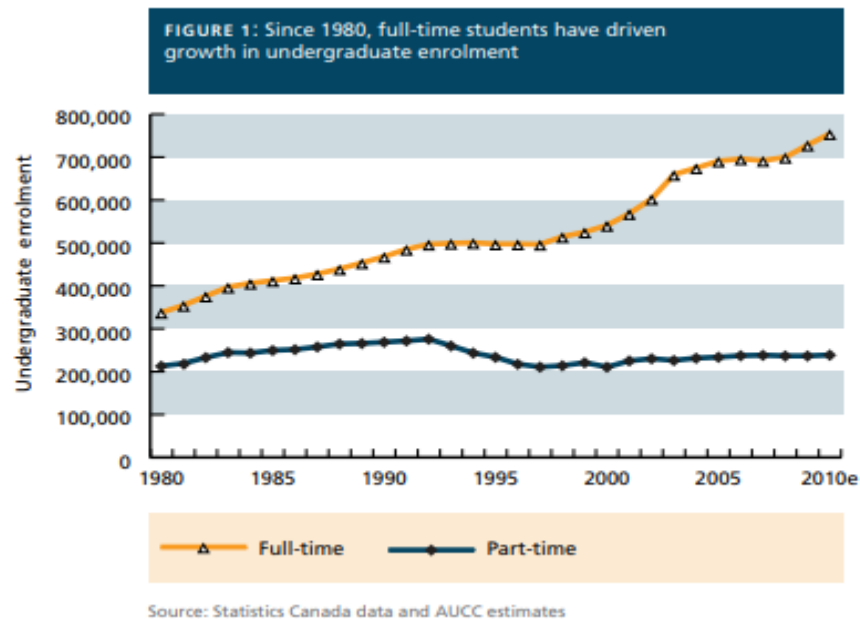
## INTRODUCTION

Academic dishonesty is a growing concern in both high school and higher education. Many studies have concluded that this issue is rising as students feel pressured to obtain good grades and many want to be admitted into higher education programs.

When Marguerite Bourgeoys founded the first school in Montreal in 1658, it was located in a stable that she had cleaned and transformed into a classroom. Things have considerably changed in education since then. Any child under 16 years of age needs to get a mandatory education and a high school diploma is the lowest form of education one is required to obtain in today's Canadian society. We have introduced technology into our classrooms and we have moved from a teacher-centered approach to learning to a student-centered approach. Students are now at the center stage of their learning as teachers need to include them as an active, and no longer passive, part of the program. Teachers are being asked to incorporate active learning in their curriculum as studies have concluded that students learn better when they are not simply passively receiving the information through their teacher. Some students will learn and retain a lot more material when they are actively engaged in their learning. Hence, teaching has evolved and is adapted to today's students, their needs and technology. But, one thing that has not changed since the beginning of schools is the way teachers assess their students. The most popular form of in-class assessment was, hundreds of years ago, and still is today, closed-book memorization exams. Why haven't these assessment methods changed even though teaching methods have and so has access to technology and the information highway? There is no need anymore to commit everything to memory as people may consult colleagues, books or even the Internet if they have a question. And yet, schools are still asking their students to perform memory-dependent in-class examinations as if none of these were available.

Following high school, many students in Quebec apply to CEGEP in either a pre-university or career program. In order to get admitted in most programs, students need to obtain a high average ("R" score). This is truer today than half a century ago as admissions into higher education have increased. "In terms of postsecondary education, since Second World War, full-time university enrolment has risen dramatically among youth aged 18 to 24, from under 3 percent in

1941 to 23 percent in 2014/2015”<sup>1</sup> More people today are getting CEGEP (in Quebec) and University degrees than they did before. As an example, in the 2016 census<sup>2</sup>, data collected demonstrated that 54.0 percent of Canadians between the ages of 25 and 64, either have a college or university degree. This is a 6 percent increase from 2006. Therefore, the pressure students feel to perform in order to get admitted into a choice program is a great source of stress for them.



Trends in Higher Education: Volume 1 – Enrolment (2011). Retrieved from <https://www.univcan.ca/wp-content/uploads/2015/11/trends-vol1-enrolment-june-2011.pdf>

Figure 1 Admissions in full-time/part-time university programs from 1980-2010.

Consequently, some students will turn to cheating in order to ensure they obtain those grades, to graduate on time, and because they are stressed over their overall academic performance. There are many methods used by students in order to cheat but technology is rendering it simpler through the use of gadgets such as smart phones, tablets and smart watches.

<sup>1</sup> Education in Canada: Key results from the 2016 Census: Retrieved from <https://www150.statcan.gc.ca/n1/daily-quotidien/171129/dq171129a-eng.htm>

<sup>2</sup> Education in Canada: Key results from the 2016 Census: Retrieved from <https://www150.statcan.gc.ca/n1/daily-quotidien/171129/dq171129a-eng.htm>



Therefore, the purpose of this research was to determine if there is a link between a student's stress level pertaining to academic performance, types of in-class assessments used and academic dishonesty. If teachers adapted their in-class assessments to reflect today's access to information (and the reality of the job market), would this decrease student's incentive to cheat?

Our research has confirmed our hypothesis that CEGEP students do, in fact, cheat. Academic dishonesty occurs more frequently during closed-book exams than it does during open-book exams. We can also conclude that students' stress level is decreased during open-book exams and increased during closed-book exams as well as for written assignments. Additionally, students' ethics pertaining to academic dishonesty changes according to behaviour and motivation to cheat. Those who cheat consider it less serious than those who do not cheat. Finally, females cheat more than male students.

## **CHAPTER ONE: PROBLEM STATEMENT**

Traditional assessments are useful for evaluating essential knowledge and abilities (Wiggins (1998). However, in-class assessments are a cause of stress for students. It has been reported that, generally, students' anxiety levels are high (Hullinger & Hogan (2014), Connon, Rash, Gerwing, Bramble, Landine & Gerwing, (2016). We live in a competitive society where students are stressed and are under pressure to perform in order to be admitted into programs such as Business Administration, Police Technology, Paramedic Care and Youth and Adult Correctional Intervention (Damer & Melendres (2011), Brady, Martin Hard, & Gross, (2017), Langenbacher, Kudlac & Fera (2013). Students also compete to be admitted into University programs, following CEGEP graduation. This pressure to perform may lead some students to cheat during examinations. According to Smith, Langenbacher, Kudlac & Fera (2013), students feel internal and external pressures to perform academically, and this is caused by intense competition for jobs in the field or admission in University programs. Furthermore, the authors state that a degree from any college is seen as a passport to middle or upper-class lifestyles and the stress related to success can lead to cheating when these dreams are compromised (p. 88). According to the Josephson Institute of Ethics' 2012 survey on 23,000 American students, 51 percent admitted cheating at least once on an examination during their academic year. Similarly, a Canadian study was done by Christensen Hughes & McCabe (2003), involving 11 universities and 15,000 undergraduates. The authors stated that 53 percent of students cheated on written assignments, and 45 percent cheated during examinations. Cheating is a major issue for CEGEP and Universities, especially with the wide availability of technology and easy access to information. Today's students have instant access to Internet through their cellphones, tablets and smart watches. It has become a puzzle for educational institutions to control access to information during examinations because of these new gadgets (Gulli, Köhler, Patriquin, (2007).

In the real world, problems are not solved with only information stored in one's memory. People are expected to look up the information they need to solve a problem. This is especially true in our technology programs, yet this is not how learning is normally assessed. Conversely, major in-class examinations do not reflect this new reality where access to information is trouble-free and instantaneous. On the contrary, students are usually forbidden to use technology, notes or

textbooks, and they must rely solely on memory in order to complete examinations. In the workforce, employees have easy access to information through the Internet, other colleagues and reference books. “In a contemporary dynamic workplace, we feel decision-making is essentially an “open-book” activity where managers do not rely upon memorized information to act effectively” (Green, Ferrante, & Heppard (2016). It is important that Business Administration, Youth and Adult Correctional Intervention, Paramedic Care and Police Technology programs, being career programs, reflect these realities. However, currently, modes of examination (closed-book examinations and the need to learn everything by heart) do not reflect these realities and, instead, create unnecessary student anxiety and incentive to cheat. Thus, using open-book examinations to test student knowledge may decrease their stress levels, as they will not have to rely on rote memory alone, and may decrease their motivation to cheat.

The goal of the study was to determine whether students cheat because of the pressure they are under in order to perform or because of the type of in-class examination they are writing. Competition amongst students for program admissions and grades is fierce. If we were right about closed-book examination generating the highest level of stress, then, it was believed that open-book examinations may help reduce this stress. Additionally, open-book examinations as assessment methods, may be better suited to reflect today’s easy access to information. There has been very little evolution in our assessment methods compared to technology and our easier-than-ever access to information. Except for open-book examinations, no other method of assessment reflects this. Unfortunately, schools and their assessments methods do not create a natural environment as they do not reflect the real world where information may be assessed whenever it is needed and useful. On the contrary, schools ask students to remember everything and not use any resources as that would be deemed cheating! Smith, Langenbacher, Kudlac & Fera (2013) report that according to literature, cheating behaviour is significant because when positively reinforced, such as it is now in our CEGEP environment, it becomes useful in a working environment as well because it was successfully rewarded in the past. Finally, if assessments did, indeed, reflect “the real world” and students could consult their notes and books, the incentive to cheat would decrease as all available tools would be at their fingertips to complete their examinations (notes, course pack and books). Therefore, the research question of this study was: Do CEGEP students cheat? What are the possible solutions?

## CHAPTER TWO: CONCEPTUAL FRAMEWORK

Access to information has changed and evolved over the past 30 years. So too have teaching strategies, as we should no longer be teacher-centered but rather student-centered in our approach to learning. Yet, our traditional examination methods have not changed. The only major change is that we went from writing an examination using quills and ink, to using a ballpoint pen. Two hundred years ago, students had closed-book examinations and they had to commit everything they were learning to memory. Today, in 2019, the majority of college and University teachers still require students to memorize course material. We could argue whether or not closed book assessments belong to some long-gone era. Are examinations which rely solely on rote memory an anachronism (Williams, 2006) given today's technology and access to information? Some argue that if students are not supervised during an in-class assessment, they will cheat. In a follow-up study done in 2014<sup>3</sup> (but not completed), Christensen Hughes & McCabe state that student cheating has increased and has become more sophisticated due to technology. Therefore, it appears obvious that in-class closed-book assessments are not the solution to decrease cheating. In addressing the question of closed-book examinations as a solution to cheating, many teachers believe that unless students are supervised, they will cheat. However, as reported by Williams (2006), students cheat even when examinations are supervised. Hence, teachers prefer closed-book invigilated exams so that they may prevent a minority from cheating. Therefore, learning is viewed as static where students play a passive role instead of being adaptive through open-book and even open-Internet assessments. Many teachers believe that traditional closed-book assessments are the best way to evaluate student learning. But many studies report that these types of examinations can be, in fact counterproductive since student "cram" all of the information needed the night before and "dump" all they know during the examination without retaining the bulk of what they learned (Williams, 2006). Would open-book examinations decrease students' incentive to cheat as they would have access to their course material? Would these types of assessment also help reduce students' stress levels? If they were given a choice, which types of in-class assessment would students favour: Closed-book or open-book examinations?

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<sup>3</sup> The study was never completed due to Dr. McCabe's death. See "Cheating said to be on rise in North American B-schools" in the Globe and Mail for interview and preliminary results.

This topic is important to me because I see students struggling and becoming anxious with something that does not have to be this stressful. I have also heard of students cheating because they felt anxious that they would not perform well. I also consider that higher education does not adequately prepare students as school does not reflect the workforce reality. We are expected to memorize information only in school and not during our professional careers where we are encouraged to consult partners, books and the Internet to solve issues. It could be important that other teachers realize that full closed-book examinations are not necessary. Examinations are stressful, whether open-book or not. But they may be modified as to help lower students' stress levels. For example, a typical examination may be divided in two parts: Core knowledge<sup>4</sup> is tested through a closed-book examination section while accessory knowledge<sup>5</sup> could be tested using an open-book section. Not all course material needs to be memorised! As previously mentioned, most information may be easily found online when needed. Allowing students access to course material during an examination may increase their self-confidence and decrease temptation for cheating. There are no studies, currently in the literature, that have established a correlation between open-book examinations and cheating.

The current quantitative study used an online survey, and involved students from Police Technology, Youth and Adult Correctional Intervention, Paramedic Care and Business Administration professional programs at John Abbott College. It examined whether or not CEGEP students cheat because of stress and pressure to perform and if open-book examinations may help decrease both. Three different variables were examined: students' stress level, cheating and open-book examinations, through an in-class online survey (using Survey Monkey) given to students. It also asked which examinations (or format) are preferred by students and which type of examination is related to students' high level of stress. Regarding stress, the literature review focused on the high levels of stress felt by students in higher education settings and the repercussions this has on their academic performance and general quality of life as students. Likewise, the study survey focused on students' stress levels whether related to the pressure of performance or examination-type stress and anxiety. Do students cheat because they are stressed

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<sup>4</sup> What students must know by heart, need to know, specialized curriculum.

<sup>5</sup> What students must understand but do not have to retain through rote memorization. Good to know information.

regarding their performance or because of the type of examination they take? The literature review addressed issues such as cheating in colleges and universities, reasons or motivations for cheating and ways of cheating. Along the same lines, the current study survey focused on reasons for cheating and methods used to cheat. Finally, a link was made between the two above-mentioned variables (stress and cheating) with open-book examinations. Do students cheat less when taking an open-book examination? The literature review focused on the relevance of open-book examinations in our modern and technologically savvy societies, their positive correlation in lowering students' stress level, how they help students learn deeply and finally, how they may decrease students' incentive to cheat. Similarly, the survey given to students addressed their examination-type preference, examination-type satisfaction, preparation time, and learning.

## **CHAPTER THREE: LITERATURE REVIEW**

### **3.1 Stress in College Students**

Stress is closely linked to mental health. Mental health refers to everyday tension, which is a normal part of everyday life. We all feel the pressure of stress as we live in a stressful society. Students are particularly exposed to stress and mental health is a concern in post-secondary education as reported by Kostouros & Bennett (2017). The authors examine how, using a tool called a Breathing Room™, they can help alleviate students' stress. They address the fact that teachers must also be concerned about their students' mental health and not simply with in-class performance. Teachers ought to care about students' wellbeing in their classrooms. It is important to understand how stress affects them and how it may affect their performance. Kostouris and Bennett state that the pressure to perform felt by students can either trigger or increase mental health problems. When faculty understand these issues, they are better equipped to help students who might, in return, seek their support. However, Armstrong & Young (2015) report the fact that Canadian post-secondary institutions are not doing enough to address mental health issues. According to these authors, close to 47 percent of College or University students report suffering from symptoms of depression, eating disorders, or anxiety (p.84). In fact, they report that most mental health issues become apparent between the ages of 15 and 24 years and they drastically affect this age group. Armstrong & Young (2015) suggest that students need to learn and understand myths as well as symptoms related to mental illness. This may help them to better comprehend how to recognize and manage their stress and anxiety as well as other psychological problems.

Conversely, it is normal to be stressed but children feel more stressed than adults. The human brain grows until the age of 20 for females and until the age of 25 for males. Therefore, immature brains need to regulate their stress responses more so than adult brains (Lupien, S.J., Juster, R.P., Raymond, C., Marin, M.F. (2018). To better understand stress, it is important to point out that there are different categories of stress. Distress is considered bad stress related to a negative interpretation of a situation. Eustress is good stress related to a positive interpretation of a situation. There are also two types of stressors; absolute and relative. Absolute stressors are real

threats for everyone such as floods, fires, earthquakes. Relative stressors are implicit threats for some people, for individual reasons. Many CEGEP students are stressed because of the pressure to perform (relative stress). In fact, the change from High School to higher education, in this case CEGEP, is a key factor of psychological stress on students as explained by Hiatt & Richardson (2017). According to these authors, we live in a demanding and stressful society both mentally and physically and there is proof that stress is linked to many diseases such as depression, post-traumatic stress disorder (PTSD), cancer, and cardiovascular diseases. According to Hiatt & Richardson (2017), in developed countries, diseases which are associated to stress will be the most prevalent and incapacitating forms of health disorders by 2030 (p. 53). Someone who is highly stressed may suffer from lack of concentration, irritability, headaches, and even ailments such as eating disorders. Therefore, it is especially important to consider stress as an important factor in students' life and not ignore its negative repercussions.

Many authors have studied the effects of stress on students. Hullinger & Hogan (2014), Connon, Rash, Allen Gerwing, Bramble, Landine, & Gerwing, (2016) confirm that undergraduate students struggle with stress related to performance. The pressure to perform may result in test anxiety. Hullinger & Hogan (2014) also state that stress may result in a drop of performance resulting from fear of failure and extreme anxiety. The authors study incoming Midwest Regional State University students' level of anxiety and how they may help decrease it through an online orientation program. Their study confirms that students experience various levels of anxiety regarding their undergraduate studies. They also conclude that male anxiety levels drop faster than females'. Finally, they confirm that an online orientation program helps decrease students' anxiety levels. On the other hand, Connon, Rash, Allen Gerwing, Bramble, Landine, & Gerwing, (2016) study the effects of Canadian students' stress through the eyes of faculty. They studied how teachers' understanding and views of test anxiety may affect the occurrence of test anxiety as well as solutions to treat it. The authors report that students feel a lot of stress regarding grades as they are the key to entrance examinations and assessments. They report that 15 to 40 percent of post-secondary students experience anxiety related to in-class assessments. They concluded that 90 percent of faculty members are willing to accommodate and support students who are anxious but that their knowledge regarding this issue is incomplete. Forty-two percent of teachers also felt that their abilities to help students deal with stress and anxiety are restricted. In other words, faculty



have a role to play when helping students deal with stress and the more they are trained, the better equipped they are to assist students. Too often, faculty are not aware of the negative impact of testing on students, and it is, therefore, important for them to understand it.

Additionally, Brady, Martin Hard, & Gross (2017) study the link between test anxiety and performance in three parts. The authors state that there is evidence in the literature that indicates even a “small” social-psychological intervention may catalyze effects on academic performance and this intervention will live for many months if not years (p. 3). Part one of their study assessed first-year and older students’ emotionality, worry, and how to successfully pass a psychology course. The sample population consisted of 245 University students. The response rate was 93.5 percent. Study measures were entrenched in a questionnaire which students received three days prior to their first examination through e-mail by their teacher. Emotionality was measured using one question (“When you think about taking the exam this coming Thursday, to what extent do you feel anxious?”). Worry was measured using two questions (“When you think about taking the exam this coming Thursday, to what extent do you feel [worried/confident]?”). The final question measured students’ confidence in their performance (“To what extent do you feel you know what to do to perform well on the exam?”). Results show that “first-year students reported greater emotionality and greater worry than their upper year peers and indicated having less knowledge about how to perform well on the upcoming exam” (p. 4). Authors conclude that teachers have a role to play when it comes to students’ anxiety and how they address this issue can influence students’ beliefs about anxiety and ultimately their performance. Nonetheless, high levels of stress will impede students’ memory and generate distractions.

In a like manner, Damer & Melendres (2011) state that anxiety may cause impairments in students’ mental and physical health (p.164). In fact, anxious students lack efficient study skills and habits (Numan & Hasan, 2017). Additionally, both Damer & Melendres (2011) and Numan & Hasan (2017) report that student performance levels are linked to admission criteria into classes, programs and schools, which creates increasing levels of stress and anxiety for students. They feel the pressure to perform well and become overwhelmed. The more stressed a student is, the lower their academic achievement will be. According to Numan & Hasan (2017), university years are more challenging than any other level of education (p.3). This may also be true for CEGEP since

it is considered higher education as well. Students' future professional careers are closely linked to their academic performances at CEGEP. Numan & Hasan (2017) address the issue of study habits and examination anxiety. The population was sampled using a purposive sampling technique and resulted in 180 university students from social and pure sciences departments. To gather their data, Numan & Hasan used the Test Anxiety Inventory developed by Spielberger in 1980. The authors found differences in anxiety levels according to gender. Females experience higher anxiety levels than males. An interesting finding is that there are no significant differences in levels of worry between students who study efficiently and those who do not. But, on the contrary, the authors indicate that students who have unproductive study habits experience more stress when taking an examination than students who have good and efficient study habits. In other words, ineffective students are less worried prior to the examination but stress more during the examination. Numan & Hasan also conclude that academic achievement is positively associated with good study habits. To summarize, the authors found a link between good study habits and test anxiety. Numan & Hasan suggest students need to develop effective study habits which will decrease their anxiety and improve their performance. Faculty may take an active role helping students develop good study habits, thus reducing their stress.

### **3.2 Cheating in Higher Education**

Being that our academic system prioritizes grades and credentials above all, rather than a motivation to learn (Christensen Hughes & McCabe, 2006), students may lean towards cheating to achieve higher academic performances. What is more, knowing that stress may impede one's concentration and memory, some students may explore alternatives to alleviate the ever-present strain in their school life. Academic misconduct has been a constant struggle in high school and higher education. CEGEPs are not immune to cheating. Many American researchers have confirmed that the majority of undergraduates have cheated at some point during their studies. In fact, Christensen Hughes & McCabe, (2006) have tackled the issue of cheating in Canadian Universities. The authors stated that, in 1996, McCabe & Treviño had reported there was an increase in the number of students who had cheated during a test. For instance, copying from another student increased from 26 to 52 percent, helping another student cheat increased from 23 to 37 percent, and using unauthorized notes increased from 16 to 27 percent. Moreover, the authors

report that 99 percent of students who cheated in high school also cheat in University. Another factor linked to cheating is maturity; older students cheat less than younger students. Finally, many students believe that they will not be caught or penalized for cheating. In sum, when academic misconduct is linked to perceived low risk and high rewards, it is more likely to occur than when students believe the opposite. Students do not view cheating as problematic. For their study, Christensen Hughes & McCabe, (2006) collected data from 11 Canadian Universities between January 2002 and March 2003. An e-mail was sent across each institution to encourage students to complete an online survey. A total of 14,913 undergraduate students, 1,318 graduate students, 683 TAs, and 1,902 faculty completed the survey. One behaviour was recognised by all group as not cheating: sharing an assignment with another student as help for inspiration. Other behaviours that the majority of respondents viewed as not cheating or trivial were working in groups on an individual assignment, receiving illicit help for an assignment, concealing library or course materials, concocting or falsifying lab data, asking for an extension using a phoney excuse, and finally, obtaining test questions from someone else who had passed the examination. The majority of respondents viewed moderate to serious cheating as copying from another student, helping a fellow student cheat, and using unauthorized crib notes. Christensen Hughes & McCabe, (2006) also found that high school students did not perceive cheating as a high-risk behaviour and neither was it associated with a negative social stigma. On the contrary, University students report that faculty did, indeed, discourage cheating, and that cheating was associated with a negative social stigma. Undergraduate students also report serious cheating during an in-class assessment by a proportion of 18 percent while 53 percent report serious cheating in written assignments. When it comes to faculty's opinion pertaining to cheating, 75 percent have suspected examination cheating and almost half (46 percent) were sure a student had, in fact, cheated. However, 46 percent chose to ignore the incident and less than 50 percent of faculty did not believe cheating was a serious problem. The results of Christensen Hughes & McCabe's study reveal that many Canadian University students do engage in academic misconduct, hence cheating. To summarize, Canadian higher education facilities are not immune to cheating. Hence, it may be time to reconsider how faculty assesses students and make some changes in the assessment format.

Cole & Kiss (2000) have examined what may be done about student cheating through two different approaches. Similar to Christensen Hughes & McCabe (2006), these authors found that

that students are cheating in record numbers (p. 5) and they do not view cheating as problematic or unethical, but they also offer two different ways to view the problem. The first way focuses on the relationship between the teacher and the students and the relevance of the assessment task. Students who respected their teacher were less likely to cheat. Likewise, students who felt that the task was meaningful were less inclined to cheat (p. 7). This information is interesting because it is possible teachers may have an influence on cheating behaviour and that good teaching and learning reflect on students' ethics and intellectual growth. The second approach was to take a "so what?" approach. Using this approach, the authors ask what is academic dishonesty and why should we care about it? Cole & Kiss (2000) report that students who cheat use technology as an advantage; video cameras, silent pagers, and infrared signaling devices. This report was written in 2000, before smart phones and smart watches. Thus, students will use the technology available to them to cheat. Teachers will fight back by surveying students closely, spacing them during examinations, having more than one examination version, demanding that schoolbags be left in the front of the class or outside, and checking student photo IDs. This is meant to discourage academic misconduct. During an international consortium, attendees were asked to find "Fundamental Values of Academic Integrity". They identified five core values: honesty, trust, fairness, respect, and responsibility (p. 7). They look at these values through three scenarios. They also provide some tips on how to discourage plagiarism. Finally, they look at the possibility of implementing an honor code. This may be done using a pledge of integrity which would be signed by students, involving students in the disciplinary process, instilling clear reporting requirements (least popular option), and finally, having unsupervised examination sessions. The idea behind no surveillance is interesting as it is a fight between faculty and students. Faculty feel the need to become security guards because students cheat, and students believe this over zealous surveillance as clear distrust and feel that they have to prove faculty right by cheating or letting others cheat. The authors conclude that the more we talk about integrity, the more it may be understood and respected by all.

In another study, Nath & Lovaglia (2009) looked at the problem of cheating, examine a protocol to identify cheaters, and offer a procedure when dealing with cheaters. The authors report that students view cheating during examinations as more serious than cheating on a written essay.

They also report that students who cheat spend more time “simulating”<sup>6</sup> knowledge than acquiring it (p. 3). Nath & Lovaglia also state that younger students cheat more than older students (as reported by Christensen Hughes & McCabe, 2006). They report that many factors may influence cheating such as college level, need to graduate and improve grades. The authors also bring forth the fact that many institutions do not enforce rules when it comes to cheating as clear evidence is hard to get and students may always appeal. This leads students to believe that cheating is not a problematic behaviour as there is often no repercussions for it. Nath & Lovaglia explain the purpose and function of the software they have developed which can detect cheating between students during a multiple-choice examination. In cases where cheating was suspected, students were confronted and most admitted to cheating. They were given an alternate assignment in order to better understand their behaviour and ensure it would not reoccur. This procedure was done over a period of five semesters (in classes of 400 to 600 students) and incidents of cheating almost disappeared. Hence, if students are not simply punished but confronted by their behaviour and given a second chance, they often reflect on what happened and learn from it.

There are many reasons why students cheat. According to Paulhus & Dubois (2015), some do it because they feel it is the “norm”, some feel disconnected from our school system, and many view it as acceptable. Furthermore, students who foster performance goals cheat more often than those who foster mastery goals. In other words, the need to perform and the competitive nature of our schooling system, may contribute to the cheating problem. Additionally, failing students are more motivated to cheat! Paulhus & Dubois (2015), through a meta-analysis, examined whether there was a link between cheating and cognitive ability. The authors searched for studies done between 1879 through 2014 which yielded 37 published reports. They found that impartial gauges of cheating are invariably related with low cognitive skill. Of these, 20 articles (containing 22 distinct samples) measured both cognitive ability and cheating. Furthermore, Paulhus & Dubois (2015), state that technology has also helped students exploit new cheating strategies, despite the fact that new detection software has also been developed. Indeed, as technology evolves, so do cheating opportunities and techniques. The authors’ conclusion is that less able students tend to cheat more. Although they also bring forward another interesting observation: “Perhaps the

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<sup>6</sup> Faking knowledge, not really learning anything as they only try to remember facts and not necessarily understand them.

unobtrusiveness of the high-tech methods undermines the advantage that hypervigilance offers to the cleverer students. In the past, clever students may have been well aware of traditional detection methods and exerted caution. According to this argument, their cheating rate is now approaching that of the less able students” (p. 187). In the end, technology may prove a good ally to clever students by enabling them to cheat undetected.

Gulli, Köhler, & Patriquin (2007) have described a study performed by University of Guelph which clearly demonstrate that more than half the students in Canada are cheating in school. 53 percent have done serious cheating in written assignments. According to Gulli, Köhler, & Patriquin (2007), in 1999, 10 percent of American students admitted cheating in written assignments. Six years later, this percentage was up to 40 percent! Likewise, University of Toronto admitted that instances of plagiarism rose from 92 in the 1990s to 298 in 2003-2004. Those are cases where students were caught and cheating confirmed. Probably the tip of the iceberg. What is even more disturbing is that studies show cheating students become unethical and unruly employees. The authors report that students don't view their behaviour as cheating, but rather a way of surviving the system. In view of this fact, we can ask ourselves whether our current assessment practices need to change. And, even more so, do we want to graduate unethical students? Over the last decade, new gadgets have been introduced on the market such as smart phones and watches. Combined with the easy access to Internet widely available through Wi-Fi, these devices make cheating simpler and effortless. One only has to store information on their “smart watch” in order to cheat. Gulli, Köhler, & Patriquin report that many higher education institutions ban, during examinations, items such as calculators, computers, sound or image players/recorders/transmitters (including telephones). It has become common practice to prevent and deter cheating. There is an underlying issue which is not helping the cheating problem: 75 percent of faculty and 80 percent of teaching assistants thought or were sure a student had cheated but less than half of them said it was a serious problem. Thus, they never report the incident. There are many reasons for that: Some fear they will lose their teaching position, or some are looking forward to being tenured and fear this would impede the process, others are not sure about procedures and prefer to address the issue one-on-one with the student. Gulli, Köhler, & Patriquin state that students are confronted by a lot of pressure, thus stress, and are sometimes incapable of doing the work, so they turn to cheating as a solution. The authors conclude by saying that

Universities have a responsibility to ensure graduating students have legitimately earned their degrees. Do we want to start doubting whether or not the engineer that built the bridge we drive on everyday knew what he was doing or got his degree by cheating his way through? This question may also be asked of CEGEPs' professional program students.

In a study of students in Economics classes, Sigmund & Kerkvliet (1999), explore the factors related to cheating in the classroom. The authors study students' characteristics and behaviour and preventive measures taken by teachers to fight cheating in their classrooms. The authors report that the level of cheating fluctuates noticeably according to the class. They test whether or not prevention measures effective. Finally, they present data on the relative effectiveness of different cheating prevention measures. The authors found that student's grades and year in school were important factors in cheating behaviour. Sigmund & Kerkvliet (1999), also found an overall probability of .13 that students cheat at least once on an in-class examination. Regarding prevention measures, the authors report that simply asserting that honesty is strongly encouraged decreases in-class cheating behaviour by twelve percent and so does adding an additional examination version by 25 percent. Finally, examinations that were surveyed by tenured faculty also decreased cheating by 32 percent.

In a study published in March 2018, Stephens explored students' judgments pertaining to cheating, relations between domain judgment and engagement in academic dishonesty and finally he tested competing theoretical models of moral functioning. In his study, Stephens used a cross-sectional survey data and his sample population was secondary students ( $N = 380$ ) from the United States. The author reports that moral judgment is not a guarantee as students cheat and they know they should not. Stephens (2018) states the study done by Beck and Ajzen (1991), in which they used the theory of planned behaviour, to show that "motivational factors (i.e., perceived moral obligation) and self-regulatory beliefs (i.e., perceived behavioural control) explained significant additional variance (beyond attitudes) in predicting both intentions to cheat and engagement in cheating" (p. 2). Stephens found that most students (between 51.1 and 65.8 percent) consider four of the six assessed behaviours (copied homework, unpermitted collaboration, plagiarized a few sentences, used unpermitted notes on test, copied from another on test, let another copy from test)

to be morally wrong<sup>7</sup> (and not “social conventions”). Two exceptions, unpermitted collaboration (65.1 percent) and plagiarism (61.5 percent), are thought to be “social conventions”. A minority of students think the behaviours are a personal choice. Stephens states that students who consider such behaviours to be a personal choice are also the ones who engage in such behaviours. On the contrary, students who think these behaviours are morally wrong, tend to not engage in them. There was no significant direct means from moral judgment to academic dishonesty ( $b = -0.05$ ), neither was the indirect means from responsibility judgment to academic dishonesty ( $b = -0.09$ ). Finally, the author concludes that his research revealed judgments of cheating behaviour fluctuate not only in scale but in kind as well. As well, moral judgment matters and not every student finds cheating to be morally wrong. Teachers should reinforce students’ moral judgments pertaining to cheating and make them personally responsible for not cheating.

So far, cheating as been studied as a phenomenon, but Küçüktepe (2014), looks at cheating from the students’ perceptive. Why are students cheating? Pavela (1978) in Küçüktepe, defines cheating as “intentionally using or attempting to use unauthorized materials, information, or study aids in an academic exercise” (p. 102). The author reports that students view cheating as either using notes and being helped during an examination or as theft of knowledge (p. 101). More importantly, many students do not view cheating as problematic or unethical (same as previously report by Cole & Kiss (2000), Christensen Hughes & McCabe, (2006), & Paulhus & Dubois (2015). Rather, they believe it’s a means to an end, an easy solution to obtain better grades. Twenty-six students from the University of Marmara participated in the study. Data collection was done using semi-structured interviews. Here is a summary of obtained answers. Students were asked how they would describe cheating. Some of the answers given were that it was a way to decrease their stress level, or to improve their grades, or even instant information. It is interesting to note that three quarters of the participants had cheated during an examination. Students were asked the reason why they cheat. Many answers were provided such as fear of not graduating, unprepared for the examination, and unsure about own knowledge. Other answers are equally interesting. Students felt the teacher was ineffective in delivering course material, examinations are based on memorization, and teachers overlook cheating during the examination. Then, they

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<sup>7</sup> Social convention: “Wrong because it’s against societal laws, rules or customs”.  
Morally wrong: “Wrong regardless of laws or rules”.



were asked how they prepared themselves to cheat. This part is interesting as some students use technology to cheat such as SMS, record information in mobile devices, use Bluetooth and mobile devices to transmit information, record cheats on MP3 devices, use watches, and access Internet. Students were also asked to describe techniques they use prior to the examination to help them cheat (such as collusion between two students). Again, answers were varied. Sitting beside a good student, develop secret codes and body language, and sitting where teacher can't see them. Students were asked to explain why they would help someone else cheat or why they would not. They would do so to help someone in need, to help a close friend, and because they may need help in the future. They would not cheat because it is immoral, because the student asking for help does not attend class regularly, and because they do not want cheaters to have good grades. Finally, they were asked why they felt guilty cheating and why they did not. They felt guilty because they like the teacher and did not feel guilty because the examination relies on memorization. All of these answers provide a good insight as to what may motivate students to cheat and why they do it. Many answers confirm cheating is related to performance, stress and examination format.

There have been a quite a few studies on the relationship between gender and academic dishonesty. In their review over a period of ten years of research on academic cheating, McCabe, Treviño, & Butterfield, (2001) stated many prior studies conveyed men cheat more than women (e.g., Aiken (1991), Davis, Grover, Becker, & McGregor (1992), Ward (1986). But they also reported that a few studies have also found no differences between genders and academic dishonesty (Baird, 1980; Haines et al., 1986). Furthermore, McCabe, Treviño, & Butterfield reported that McCabe & Treviño (1997) stated that data suggests when it comes to academic dishonesty, gender differences are trivial.

Sideridis, Tsaousis, & Harbi (2016), had 4,024 students from the Middle East, 2,601 females and 1,423 males, who participated in their study pertaining to cheating ethics. They examined dishonest students as they were caught cheating during examinations. They studied a number of different variables such as difference scores between two or more administrations of the same achievement measure, changes in examination center, in city where exam was administered, changes in the region, and, most importantly (for our current research), gender. What they found is that probable cheaters shared a fundamental variable which was gender. Cheaters

were mostly male students. Their study confirmed that gender plays a crucial role in cheating behaviour, since male individuals were identified as more likely to exhibit cheating behaviour.

Similarly, Becker & Ulstad (2007) studied undergraduate students from three AACSB-accredited universities. 515 Students answered a 10-minute, 4 section survey during class time. Authors found that many students tolerated cheating behaviours; and students' ethics pertaining to cheating do not conform to faculty beliefs. The research revealed that female students are less tolerant towards cheating behaviours than their male counterparts.

Another study done by Gibson, Khey, & Schreck, (2008) on gender and cheating, had a sample population of 224 American university students. The sample was 36 percent male and 64 percent female. They measured academic dishonesty through self-report questions concerning test cheating. The authors asked students if they had cheated on a test during the year. They discovered that males self-report cheating more than females (45 percent compared to 26 percent). Additionally, male students have lower self-control than females. Furthermore, female students are more shame prone than male students. Next, female students scored higher on the embarrassment scale regarding cheating than their male counterparts. The authors state that "moral beliefs matter more for females and that self-control matters more for males" (p. 14).

Finally, in a similar study, Ip, Pal, Doroudgar, Bidwal, & Shah-Manek, (2018) tried to establish whether differences existed based on gender among cheating pharmacy students and their ethical views of cheating. A total of 330 second-year pharmacy students from four Northern California pharmacy programs completed a 45-item survey. The authors found no significant gender-based differences in cheating behaviours. Ip, Pal, Doroudgar, Bidwal, & Shah-Manek stated that female students were more likely to come forward in greater numbers to report seeing a classmate copy from another student. On the other hand, male students were less likely to negatively judge a student who shared a stolen exam as a cheater. The authors concluded that there is no gender-based differences in cheating or other forms of academically dishonest behaviour.

### **3.3 Open-book as preferred form of assessment**

We have, so far, examined how stress affects students and their learning capabilities and, how the pressures of school life may lead some students to cheat. Students may cheat on written assignments which are done at home. But they may also cheat during in-class assessments. Assessments are the most important part of our grade-oriented schooling system. Many students will be stressed and will feel pressured to do well during in-class examinations. According to Wiggins (1989), a “test is central to instruction” (p. 704). Similarly, Broadbent, Panadero, & Boud (2018), stress that what a teacher uses as a form of assessment plays an important role regarding students’ learning and achievement. Assessments potentially influence students’ confidence as they may ask themselves whether higher education is right for them and if they can succeed (Gill, 2015). The same author also says that assessments may impact students’ long-term engagement and retention (p. 54). As stated by Broadbent, Panadero, & Boud (2018), “the dominant message is the need for a fundamental reconceptualization of the purpose of assessment” (p. 54). In short, what are the teachers’ goal when evaluating their students? Shepard (2000) states that “looking at any collection of tests from early in the century, one is immediately struck by how much the questions emphasize rote recall (p. 5)”. Many teachers, in 2018, still use rote memorization to assess their students. This does not reflect today’s reality of easy and fast access to information nor does it mirror the workplace environment where one may consult a colleague, the Internet or even a book for reference purposes. To take a case in point, Heijne-Penninga, Kuks, Schonrock-Adema, Snijders, & Cohen-Schotanus (2008) agree that in the work field, professionals do not rely on memory alone therefore, open-book examinations are more representative of what is expected when “on the job” (p. 264). However, in-class open-book assessments may be the “modern version” of rote memorization examinations, which have been used for hundreds of years in schools, because they reflect today’s reality of easy access to information through various sources (books, Internet, etc.). Some authors like Williams (2006) argue that “In an era where a wealth of information is available at our fingertips (literally and metaphorically), to have examinations which treat knowledge and its acquisition as a memory test is an anachronism” (p. 111). Even more, constructivism theory states that people create meaning as opposed to acquiring it. Students do not simply transfer what they know into memories but instead shape their analysis of the world based on their own experiences and interactions. Therefore, deep learning occurs when students

are actively engaged in managing incoming stimuli. Likewise, constructivism focuses on knowledge construction and not knowledge reproduction. Rote memorization does not encourage this philosophy of learning. Therefore, closed-book examinations may not be the best solution for a deep-learning experience. Williams (2006) also states that many students admit that to prepare for a closed-book examination, they “cram” the information the day before, and “dump” all this information the day of the examination, which leaves little knowledge retention. Williams also reports that faculty who are in favour of closed-book examinations will claim that students will cheat unless controlled. This claim assumes that during closed-book examinations, students do not cheat, which we know is false from the above-mentioned studies on cheating. So, for many teachers it comes down to “policing” rather than learning. In Williams’ study, which took place over a period of three months, 120 students took online open-book examinations, and 54 students responded to an online questionnaire (a response rate of 45 percent). The results of the survey show that 88 percent of students agree or strongly agree that open-book examinations produce higher quality outcomes. 84 percent of students agree or strongly agree that open-book format is more intellectually challenging. Finally, as many students thought that the assessments’ interactive disposition is more engaging. Students were also asked about cheating and the examination format. For open-book examinations (in this case online) 30 percent of students disagree or 20 percent strongly disagree that they could cheat, 27 percent answer neutrally and 23 percent agree (but not strongly). When asked if students cannot cheat during a closed-book examination answers are a little different. 20 percent remain neutral, 22 percent disagree, 18 percent strongly disagree, 27 percent agree, and 13 percent strongly agree. Williams concludes that open-book examinations may not prevent students from cheating, but the learning outcomes are greater than the cheating student minority.

In their study of open-book examinations, Heijne-Penninga, Kuks, Schonrock-Adema, Snijders, & Cohen-Schotanus (2008) have a sample population of first and second-year medical students, 934 in total, from the University of Groningen. Each cohort were given a total of eight in-class assessments. The first closed-book examination was not included in the results. The other seven examinations were a combination of closed-book and open-book sections. The authors use both types of examinations as they believe core knowledge (know by heart, specialized curriculum) may be assessed using closed-book examinations and accessory knowledge (must

understand but do not have to retain through rote memorization) may be assessed using open-book examinations. The authors state that one of the advantages of using open-book examinations is that more subjects may be covered as students do not have to retain everything. Additionally, the “cram and dump” type questions may be replaced by questions requiring deep thinking skills. Study results show that students had lower scores in open-book examinations. Authors state it may be so because these types of examinations were novel to both students and teachers. The way questions are formulated in open-book examinations may be different than for closed-book examinations. Also, students required more time to complete the open-book examination sections. As the authors report, the myth is that open-book examinations are easier. Results show that students did slightly better in closed-book examinations than they did in open-book examinations which contradicts this assumption. Many reasons may explain these results: (1) open-book questions are harder, (2) students were not properly prepared, and (3) students did not adequately use their textbook. Teachers might have to advise students on how best prepare for an open-book examination. The authors conclude that “sufficient reliabilities” (p. 272) are achieved with open-book examinations.

In a similar study, Theophilides & Dionysiou (1996) recount that as early as 1951, there were reports that open-book examinations decreased students’ anxiety and helped tackle practical problems and reasoning rather than rely on simple memorization. The authors refer to many studies that have been done over the years pertaining to open-book examinations and these studies concluded that:

- 1- Open-book examinations do not result in higher grades for students.
- 2- Open-book examinations decrease students’ stress, are fair and generate lasting learning outcomes.
- 3- Open-book examinations do not require rote memorization and require students to study in more productive ways.

Students foster positive attitudes towards open-book examinations. In fact, 74.5 percent of students surveyed by the authors state that given the choice, they would choose an open-book examination format even if 77.5 percent consider them equal or harder than closed-book examinations. Theophilides & Dionysiou wanted to study the major functions of open-book

examinations and their relationship to expected grades and stress. Their sample population was 173 students in a teacher-education program. The course was compulsory and students were taught with the constructivism philosophy in mind. They were told that their final examination would be open-book and how they should prepare for it. Following their last examination, students were asked to complete a questionnaire. Questions were about their open-book examination. Response rate was 83.6 percent. The answers which got the highest response rates pertaining to first category “creative efforts done by students during exam” were the following: exercises himself in critical thinking, thinks deeply about a problem, develops his own answer (not from memorization), transfers knowledge from new situations, and probes deeply into knowledge gained. In the second category “efforts undertaken to prepare for exam”, the highest response rates were not provided as it consists of only six items. Here are some points examined in that category: studies various sources, practices study skills (note taking, textbook studying). For the third category, “student self-evaluation and feedback”, the highest rated answers are provided: is aware of his learning gaps, evaluates his individual study approach, performs self-evaluation, completes his knowledge through self-study, and becomes aware of what he learned during the course. The fourth category was related to “reduction of examination stress”. Questions were about how relaxed students were when answering examination questions, if they were optimistic about the examination, if their confidence was enhanced, and if they could anticipate their grade. The fifth category examined a period prior to taking an examination (self-regulation in course studying). Some answers were: Identifies gap and weakness in learning, feels satisfied with study progress, puts emphasis on information gathering, and aware of learning gaps. Through analysis of results obtained, Theophilides & Dionysiou stated that during open-book examinations, students use creative knowledge which implies that they think deeply, use critical thinking skills and come up with their own answers. It is not simply information recall and rote memorization. Another advantage of open-book examinations according to the authors is that students look deeply inside subject matter as they link different sources to come up with their answers. As well, at the end of the assessment, students are able to perform a self-evaluation and judge the product of their preparation time. Another important element that the study confirmed is that students’ stress level, although not completely erased, is decreased during an open-book examination. Additionally, students feel more confident and optimistic about their performance. Finally, the authors state that this type of examination helps students self-assess their mastery of course-content.

In a like manner, Block (2012) studied the use of open-book examinations as a way to increase students' course enjoyment without decreasing their learning. The author also reports that there is a known link, reported in the literature, between open-book examinations, students' decrease in stress and lasting learning outcomes. Block also emphasize that open-book examinations are not only about rote memorization but deep learning. Block's study changed a Math 300 course from closed-book examination to open-book examination mode for two semesters before returning to closed-book examination mode. Results show that in the first open-book semester, students' scores were lower than last semester for a closed-book examination. This may be explained by the fact that students were not well prepared and spent a lot of time searching for answers during their open-book examinations. This problem has also been found by other open-book examination researchers as well. Nonetheless, students report increased satisfaction regarding this type of examination. Scores improved slightly during the second open-book semester. Block concludes that students like open-book examinations although they find them harder. But students were better prepared for closed-book examinations. Block recommends that if teachers chose closed-book examinations, that they should, at least, allow their students some handwritten notes on notecards.

In another study, Brightwell, Daniel & Stewart (2004) studied whether or not open-book assessments are easier than closed-book assessments. The authors state that open-book assessments are a good tool, fit in a student-centered approach to education, and help reduce students' anxiety. The authors report that other studies have proven open-book examinations help students increase higher thinking skills. When asked, students clearly prefer open-book assessments even if they are more demanding. Additionally, Brightwell, Daniel & Stewart state that open-book examinations are more representative of real-world situations where unlimited resources are available to solve problems. The study's sample population was 196 first semester Bachelor of Science students from Edith Cowan University (ECU). Students completed a closed-book examination and then, a week later, completed the same examination as open book. Results show that there were no considerable differences between closed and open book examination scores. Authors explain the results referring to the literature which shows that students usually do not prepare as much for an open-book examination as they would for a closed book examination. But, on a positive note, they are less anxious when preparing for it. The authors also refer to the

fact that open-book examinations provide students with more consistent and varied methods when they study, because they consult different sources to attain the performance they want.

Gharib, Phillips, & Mathew (2012), state that their study began following arguments in their department about the best type of examinations to give students. Some teachers believe that closed-book examinations are the best way to evaluate students while others believe it is through open-book examinations or use of cheat sheets. Gharib, Phillips, & Mathew state that students prefer open-book examinations and that this type of examination decreases their anxiety. The goal of their research is to compare the efficiency of open-book, closed-book, and cheat sheet examinations. Their sample population consisted of 396 undergraduate university students. 297 students enrolled in eight different sections of an Introductory Psychology course, and 99 students enrolled in four sections of a Statistics course. Students completed a 3-item survey, which asked them which type of examination (open-book, cheat sheet, or closed-book) they expected they would perform better in, which examination type they would study most for and their examination preference. In Psychology, t-tests revealed lower scores in closed-book examination than open-book and cheat sheet examinations. As well, cheat sheet examinations resulted in lower scores than open-book examinations. Interestingly, in Statistics, open-book and cheat sheet examinations did not yield significant result differences. Another interesting fact is that a Pearson correlation confirmed that students' cheat sheet quality was not connected to performance in cheat sheet examinations for the Introductory Psychology course, but there was a positive link between cheat sheet quality and cheat sheet examination performance in the Statistics course. Measure of students' anxiety during examination was lowest for open-book examinations, even more so than cheat sheet examinations. The authors report that, overall, students who do well in one type of examination, tend to do well in all no matter the examination type. The authors' conclusion is that "finding that open-book exams cause less test anxiety than cheat sheet exams should encourage psychology teachers to consider open-book exams as an alternative to closed-book tests—An open-book exam still distinguishes good students from poor ones, is preferred by the students, does not seem to decrease learning and retention, and decreases anxiety levels" (p. 477).

Furthermore, Broyles, Cyr, & Korsen's (2005) study purpose was to establish if there are benefits to students consulting their textbook during an examination. The authors note that many



students are approaching learning as memorization only. Broyles, Cyr, & Korsen also believe that open-book examinations emulate the work field environment as medical practitioners may consult written material to help with prognosis. The authors also state that the effects of open-book examinations on students include a decrease in tension and stress, an increase in learning outcomes, a decrease in simple rote memorization, and more constructive ways for students to study. The sample population was students from the University of Vermont Medical School and Maine Medical School, enrolled in the Family Medicine Clerkship. Open-book examinations were used in Maine and closed-book examinations were used in Vermont. The authors used a qualitative research methodology to answer four research questions pertaining to decrease of stress, examination preparation, textbook use and response format. Results show that 60 percent of students did not change their study habits because of examination format. Conversely, students state that instead of simply memorizing facts, they are able to read to understand. As well, students found that they do not try to memorize but instead know and understand facts. Regarding stress, over 80 percent of students state they feel less anxious, less stressed and more comfortable. One student even mentions feeling safe. Regarding the use of textbook during the examination, one-third of students who used the textbook had some problems with time. Finally, over 60 percent of students enjoyed this type of assessment. The authors conclude that “Students using the open-book approach showed a statistically significant change in mean score compared with those who took a closed-book exam” (p. 460). Open-book examinations clearly reduced students’ stress and provided a safe environment. And successful students do not modify their study techniques for open-book examinations. Finally, students appreciate open-book examinations as it enables them to apply knowledge and not simply memorize it. Broyles, Cyr, & Korsen recommend that students get to know their textbook prior to the examination so they may use it more efficiently during their examinations. An interesting observation the authors made is that our evaluation system is based on rote memorization which many teachers think works extremely well but this is a trap. If teachers invested some efforts creating an evaluation system composed of non-memory-based examinations, it could change everything (p. 461).

### 3.4 Summary

The literature is clear that students feel stress in higher education (Kostouros & Bennett (2017), Armstrong & Young (2015), Hiatt & Richardson (2017), Hullinger & Hogan (2014), Connon, Rash, Allen Gerwing, Bramble, Landine, & Gerwing, (2016). Grades are of outmost importance in our schooling system as they are the only entryway to any admission process, including courses, programs and, eventually, graduation. Students feel overwhelmed and pressured to do well. At the same time faculty are ill-prepared to alleviate students' strains. Many teachers do not understand the amount of pressure felt by students and some feel inadequate at finding solutions. But solutions may be right in front of them. As the literature suggests, higher education facilities are not immune to cheating and technology has, over the years, helped students cheat more and more easily. The easy access to information and Wi-Fi everywhere does not simplify the issue. Consequently, teachers feel they need to "police" during examinations and focus on repression more than solutions. Students may feel like they need to cheat to prove their teachers right and, of course, to perform well. Whereas, few teachers report cheating incidents or feel uncomfortable doing so. Admittedly, cheating puts both college administration and faculty in an uncomfortable position.

Furthermore, some researchers have also examined the reasons why students may cheat. As Küçüktepe (2014) reported, some of the reasons why students cheat is because of rote memorization, the pressure to perform well, and as a mean to relieve stress. Another problem associated with this issue is that many students do not view cheating as problematic (by Cole & Kiss (2000), Christensen Hughes & McCabe, (2006), & Paulhus & Dubois (2015), Küçüktepe (2014). So, what is the solution? Does it rely on, for every examination, asking students to "strip down" and have zero technological gadgets near or on them? Does it rely on a better discussion between teachers and students about good in-class ethical behaviour? Does it rely on reconfiguring all classroom space for an examination? Maybe part of the solution relies on the examination format currently being used throughout CEGEPs. As was exposed by the literature, examination format has not evolved much over the past hundred years (Williams (2006), Shepard (2000). Faculty still rely on rote memorization as a way to evaluate students' understanding. However, was is mostly evaluated with these types of examinations are students' capacity for retention.

Students themselves admit that they “cram and dump” information for these types of examinations. Moreover, research shows that open-book examinations are more representative of the “work field” and real-world problems (Heijne-Penninga, Kuks, Schonrock-Adema, Snijders, & Cohen-Schotanus (2008), Williams (2006), Brightwell, Daniel & Stewart (2004), Broyles, Cyr, & Korsen’s (2005). Many researchers have studied the effect of open-book examinations on students’ stress level and they found a positive correlation. Open-book examinations tend to decrease students’ anxiety and stress, which is a good thing. Another positive aspect to open-book examinations, as mentioned in literature, is that students prefer it (Theophilides & Dionysiou (1996), Block (2012) as it makes them feel more confident and relaxed. By extension, the problem of students’ stress and cheating may be resolved, partly, by using open-book examinations as classroom assessments. No studies have been found in the literature that link both stress and cheating to open-book examinations and none have examined whether the use of open-book examinations would decrease students’ incentive to cheat. So, the question becomes, if students were given access to information would they still cheat? One of many reasons why students cheat is because they rely on memory alone during certain examinations. If we give them permission to use their notes and textbook during examinations, as literature suggests, their confidence levels increase, their tension decreases and they may no longer have a motivation to cheat. And, as demonstrated in the literature, open-book examinations lead to lasting learning outcomes and let students use critical thinking skills. Nevertheless, open-book examinations may not completely solve the cheating problem. Students may still “check” another student’s examination to ensure they have the right answer, but it may help reduce it considerably. Therefore, the purpose of this study, is to examine the usefulness of open-book examinations in decreasing students’ stress and incentive to cheat.

### **3.5 Research Questions and Hypotheses**

The following research measures student’s stress level, academic dishonesty (reasons for cheating, methods used, ethics), and examination types.

### 3.5.1 General Research Question

The main question for this research is: Do CEGEP students cheat? What are the possible solutions? The hypothesis is that CEGEP students are no different than other Canadian higher education students, therefore they also cheat. The literature is clear on this subject. Many students in higher education cheat.

### 3.5.2 Specific Research Questions

Other sub-questions are also examined throughout this research.

#### *3.5.2.1 Specific Research Question 1*

Which types of assessments decrease students' incentive to cheat? The hypothesis is that since students have access to course notes and their textbook during an open-book examination, they tend to cheat less as all the information is available to them. Students tend to cheat when they are forced to rely on rote memorization for fear of not being able to perform well or because of a lack of preparation.

#### *3.5.2.2 Specific Research Question 2*

Which types of assessments generate the highest level of stress in students? The hypothesis is that closed-book examinations are the assessments which foster the highest level of stress for students, as their memory is their sole instrument to succeed in such assessments.

#### *3.5.2.3 Specific Research Question 3*

Which other types of assessments would help reduce students' stress levels? The hypothesis is that open-book examinations decrease students' stress. Because students feel less pressure to memorize everything, they tend to also feel less stress when undertaking an open-book examination.

#### *3.5.2.4 Specific Research Question 4*

If they were given a choice, which types of in-class assessment would students favor: Closed-book, open-book or cheat-sheet examinations? Because the hypothesis is that students are less stressed when taking an open-book examination, the same assumption is formulated for examination preference. Students prefer open-book examination as they view them as less stressful and requiring less preparation.

#### *3.5.2.5 Specific Research Question 5*

Do students cheat because they are stressed regarding their performance or because of the type of in-class assessment they take? It is hypothesised that both are sources of academic misconduct. Students cheat because they want to increase their performance on an in-class examination and they also cheat because closed-book examinations do not give them access to information learned as they have to rely on rote memorization alone.

#### *3.5.2.6 Specific Research Question 6*

What is students' preparation time pertaining to closed and open-book examinations? The hypothesis is that students tend to prepare less for an open-book examination than they would for a closed-book examination. The literature is also clear pertaining to this; students do not prepare as much for open-book examinations as they do for closed-book examinations.

#### *3.5.2.7 Specific Research Question 7*

What is students' attitude when it comes to cheating? It is hypothesised that students understand cheating is wrong but do it to improve their academic performances.

#### *3.5.2.7 Specific Research Question 8*

What is students' satisfaction regarding the assessment methods used by their teachers? It is hypothesised that students' satisfaction levels will be low because of the exam types they are taking.

## CHAPTER FOUR: METHODOLOGY

### 4.1. Research Design

Our research methodology was designed to determine whether CEGEP students cheat and the reasons behind this behaviour. The research was quantitative as an online survey (using Survey Monkey) was given to students (see Appendix A) during class time. A quantitative method was chosen as the best way to gather data from a large sample of students.

#### 4.1.1 Population and Sample

This section presents the different programs participants were enrolled in at the time of taking the questionnaire. Those include program name and number of students from each program. The target population is JAC students from of the Youth and Adult Correctional Intervention, Police Technology, Paramedic Care and Business Administration career programs.

Table 1  
Number of Students According to Program

Programs	Number of students who completed the survey	Percentages
Business Administration	185	41%
Paramedic Care	42	9%
Police Technology	131	29%
Youth and Adult Correctional Intervention	90	20%
<b>TOTAL</b>	<b>448</b>	<b>99%</b>

The research took place over the winter 2019 semester. The sample used in this study (n= 448) was drawn from students in all three semesters (two, four and six) in Police Technology and YACI, students from semesters four and six in Paramedic Care and students from nine different courses and semesters of the Business Administration program.

Table 2  
Demographical Information

		Number	Percentage	JAC Day Division Number	Percentage
Gender	Male	175	39%	2950	47%
	Female	258	58%	3277	53%
	Other	13	3%	N/A	N/A
Age	17-20 years old	306	69%	5236	84%
	21-24 years old	98	22%	691	11%
	25-29 years old	30	7%	147	2%
	30-34 years old	4	1%	55	0.9%
	35-39 years old	2	0.40%	44	0.7%
	Over 40 years old	2	0.40%	54	0.9%
	Would Rather Not Answer	4	1%	N/A	N/A
Status	Single	315	71%	N/A	N/A
	Married/Common Law	52	12%	N/A	N/A
	Widowed	4	1%	N/A	N/A
	Other/Would Rather Not Answer <sup>8</sup>	75	17%	N/A	N/A

## 4.2 Method

Students were given a questionnaire to complete, which comprised of 80 questions (using a Likert scale). The first section of the questionnaire asked questions pertaining to their level of stress regarding examination type. In the second part of the questionnaire, students were asked whether they have cheated or not since starting in their respective programs. If so, students were then asked which means they have used to cheat, the examination type they cheated on, the reasons why they cheated, and how they felt about cheating (ethics) (using multiple-choice answers). In the third section, students were asked their preferred examination type and how many hours they spend preparing for an in-class examination (using multiple-choice answers). Students were given a question pertaining to different types of assessments and their satisfaction level regarding those. Finally, students were asked to identify their gender, age and status to determine if there is a link

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<sup>8</sup> Some students specified that they were “dating” in the “other” category.



between cheating, gender, age and marital status. These links have not been firmly established in the literature. Some studies conclude that males cheat more, others state that there is no difference between both genders. On the other hand, the literature is clear that age plays a role when it comes to cheating behaviour. Young students tend to cheat more than older students. (See Appendix A for survey questions.)

### **4.3 Ethical Considerations**

This research project was approved by the JAC Research and Ethics Board in December 2018. Chairs and teachers from four programs were approached and asked for their participation in the project. Each agreed to let the researcher come to their classes for about 20 minutes to introduce the project, give the sample online survey consent form (See appendix C) and let students complete the online survey on their cellphones. The purpose of the research was presented verbally to all students and they were each given a paper copy of the JAC online survey consent form as well. It was clearly explained that although many questions are self-incriminating, the goal of the research was not to identify students who cheat but to better understand the motivation behind cheating and how teachers could, perhaps, help decrease the incentive to cheat. All participants were informed of their right to refuse to participate and their right to withdraw for any reason and at any time while completing the online survey. The fact that students were given time to complete the survey during class time ensured a higher participation rate. Out of 510 students who started the survey, 448 (n=448) answered all 80 questions.

All surveys were anonymous since questions were very personal or self-incriminating. Anonymous surveys also resulted in more honest answers from students. They were also informed that all data collected through this research will be stored for five years and securely destroyed. Since students were given an online survey, all results were compiled by the server (Survey Monkey), ensuring anonymity, as students did not have to provide their names or any type of identification to complete the survey. Answers were exported into an Excel file and analysed.

It was agreed with all participating programs that following data collection and analysis, results of the study will be shared.

All data collected through this research was be stored on a USB, accessible with a password during data analysis phase and will be securely destroyed once research is completed and diploma has been delivered (approximately 24 months).

## **4.4 Instruments**

### **4.4.1 Questionnaire**

Christensen and McCabe developed a survey used in their 2006 research on cheating. Part of the questions they used was also used in this research with their consent. Some of the questions were also inspired by Küçüktepe's (2014) and Brady, Martin Hard, and Gross' (2017) researches. The questionnaire was used to measure students' stress pertaining to in-class written exams, using a 5-point Likert scale from extremely to not at all. Students were also asked to rate, on a 6-point Likert scale from very stressful to not applicable/never had any, the stress generated by all assessments given to them in and out of class. Students were also asked their opinions pertaining to the frequency of academic dishonesty at JAC using a 5-point Likert scale from very often to never. Using a 5-point Likert scale from once to not relevant, students had to rate how often they had cheated since starting in their program. Then, using a 4-point Likert scale from serious cheating to not cheating, students were asked how they viewed this behaviour (ethics). Next, using a 6-point Likert scale from strongly agree to I do not cheat, students were asked to rate their motivation for being dishonest. The final section on cheating asked the students their opinion regarding cheating in their program and regarding in-class assessments, using a 6-point Likert scale from strongly agree to not sure. In the third section of the questionnaire, students were asked about preparation time for examinations, using a 6-point Likert scale from over four hours to I do not study. Students were also asked about their personal satisfaction regarding assessments, using a 6-point Likert scale from strongly agree to not sure. The final section dealt with gender, age and status. (See Appendix A for survey questions.)

## CHAPTER FIVE: PRESENTATION AND ANALYSIS OF THE DATA

This chapter is divided into nine parts, each one respectively analyzing every research question.

Of the 510 students who started the online survey, only 448 completed it. This is an 88 percent completion rate. Of these students, 258 identified as females (57.5 percent), and 175 identified as males (39 percent), and 13 students (3 percent) identified as other. It took each student an average of 9:13 minutes to complete the survey.

### 5.1. Do CEGEP Students Cheat?

This section describes the results obtained regarding the general research question as to whether or not students in CEGEP cheat. From the gathered data, it is clear that CEGEP students cheat. 377 students answered positively to one of the twelve questions about their own academy dishonesty (see Appendix A for survey questions #27-38). That represents an 84 percent average of students who, at least once, have cheated since starting in their program. (See Appendix B for charts pertaining to cheating.)

### 5.2. Reducing the Incentive to Cheat

This section presents results pertaining to the research question regarding the types of assessments that may decrease students' incentive to cheat. The answers were given using a Likert scale ranging from *Strongly Agree* to *Strongly Disagree*. Students were asked if, in their opinion, students cheat more during closed-book exams. Sixty-eight percent of students answered that they *Strongly Agree/Agree* with this statement.

Students were asked if, in their opinion, students cheat more during open-book exams. Thirteen percent of students answered that they *Strongly Agree/Agree* students cheat more, but 55 percent of students stated that they *Strongly disagree/Disagree* with that statement. Therefore, according to most students, there is less cheating during open-book examinations.

Pertaining to cheating during a cheat-sheet exam, 10 percent of students answered that they *Strongly Agree/Agree* that students cheat more, but 43 percent disagree that students cheat more.

Finally, 56 percent of students *Strongly Agree/Agree* that there is more cheating done by sharing scenarios during a practical exam. Only 13 percent of students *Strongly Disagree/Disagree* that students cheat more by sharing scenarios.

Table 3  
Opinion pertaining to academic dishonesty

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	Not Sure
In your opinion, and to your knowledge, only a minority of students in your program cheat during in-class exams.	10%	42%	20%	17%	5%	6%
In your opinion, and to your knowledge, students in your program cheat more during closed-book exams.	23%	44%	14%	6%	4%	8%
In your opinion, and to your knowledge, students in your program cheat more during open-book exams.	3%	11%	22%	36%	19%	9%
In your opinion, and to your knowledge, students in your program cheat more during cheat-sheet exams.	2%	8%	29%	29%	14%	17%
In your opinion, and to your knowledge, students in your program cheat by sharing the scenario content of practical exams.	15%	41%	19%	9%	4%	11%

Scenarios of practical exams are often being used as an assessment tool in PC, PT and YACI. They are essential in these career programs. Many students do not feel that sharing a

scenario is cheating as the scenario may change from one person to another according to the way the intervention is individually done.

Based on the answers given, it is clear that students believe there is less cheating during an open-book exam, closely followed by cheat-sheet exam. Closed-book exams, followed by sharing information regarding practical scenarios, appears to be the type of exams where most cheating occurs. The hypothesis that students cheat less during an open-book exam has been confirmed.

### **5.3. Students' Stress Level**

This section presents results pertaining to the research question concerning types of assessments which would help reduce students' stress levels. Pertaining to types of assessments which generate the highest level of stress in students, answers were given using a 5-point Likert scale ranging from Extremely to Not at All.

Students were asked "When you think about an upcoming open-book exam you will write, to what extent do you feel anxious/stressed?". Only 2 percent of students find this type of assessment extremely stressful. In contrast, 40 percent of students, answered *A little bit*, while only 20 percent of students answered, *Not at All*.

Regarding closed-book exams, students were asked "When you think about an upcoming closed-book exam you will write, to what extent do you feel anxious/stressed?". Many students, 46 percent of them, answered *Quite a Bit*, and only 11 percent of students answered *A Little Bit/Not at All*.

Similarly, students were asked "When you think about an upcoming cheat-sheet exam you will write, to what extent do you feel anxious/stressed?". The answers are akin to those for open-book exams, 37 percent of students answered *Moderately*, and only 2 percent of students answered *Extremely*.

Students were also asked how stressed they felt during exams. For closed-book exams, 41 percent of students answered *Quite a Bit*, 26 percent of students answered *Moderately*, and only 2 percent of students answered *Not at All*. When asked how stressed they felt during an open-book exam, 42 percent of students answered *A Little Bit*, and only 2 percent of students answered *Extremely*. Finally, regarding stress and cheat-sheet exams, 38 percent of students answered *A Little Bit*, 37 percent of students answered *Moderately*, and only 1 percent of students answered *Extremely*. This information is summarized in Table 4.

Regardless of the type of exam they take, 35 percent of students feel moderately stressed. The data clearly demonstrates that students feel more stressed during a closed-book exam. Of course, students are stressed when it comes to writing exams. But it is clear that there are types of assessments that reduce their stress level, such as open-book exams.

Table 4  
Level of stress students feel before and during in-class assessments.

	Extremely	Quite a Bit	Moderately	A Little Bit	Not at All
When you think about an upcoming closed-book exam you will write, to what extent do you feel anxious/stressed?	22%	46%	21%	9%	2%
When you think about an upcoming open-book exam you will write, to what extent do you feel anxious/stressed?	2%	9%	29%	40%	20%
When you think about an upcoming cheat-sheet exam you will write, to what extent do you feel anxious/stressed?	2%	13%	37%	35%	13%
During closed-book exams I feel very stressed.	18%	41%	26%	12%	2%
During open-book exams I feel very stressed.	2%	10%	26%	42%	20%
During cheat-sheet exams I feel very stressed.	1%	13%	37%	38%	11%
I feel stressed no matter which type of exam I take.	5%	22%	35%	27%	11%
During exams I find myself thinking about the consequences of failing.	19%	28%	19%	19%	14%
During exams I feel pressure to perform well and obtain the best possible grades.	44%	36%	13%	5%	2%
I feel a lot of pressure from my parents to have good grades.	13%	24%	24%	18%	20%
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
I need to have a high “R” score in order to get admitted into another program following this one.	37%	35%	17%	6%	4%

The consequences of failing are very stressful for 47 percent of students who feel both *Extremely* and *Quite a Bit* stressed about it. Many students, 43 percent of them, feel pressured to perform well and obtain the best possible grades. Surprisingly, parents do not seem to play a leading role in students' stress level when it comes to grade and performance as only 38 percent of students answered that they felt *Extremely* or *Quite a Bit* of pressure from their parents.

When asked to rate their levels of stress pertaining to assessment types, the answers were given using a 6-point Likert scale ranging from *Very Stressful* to *Not Stressful at All* (and not relevant). Closed-book exams came first with 79 percent of students finding them *Very Stressful or Stressful*. The second type of assessment that students found the most stressful are term papers, essays and written assignments with 78.7 percent of students finding them *Very Stressful/Stressful*. The third type of assessment that is the most stressful for students are practical scenarios with 65 percent of students finding them *Very Stressful/Stressful*. The type of exam that students find the least stressful is open-book exams since only 26 percent of students find them *Very Stressful/Stressful*. This is closely followed by cheat-sheet exams: 27 percent of students find them *Very Stressful/Stressful*.

The answers are surprising as it was unexpected that students would find term papers, essays and written assignments almost as stressful as closed-book exams. Given that students are given time to prepare and write their term papers, and that they can write them at home or school, using material from their courses, libraries or the Internet, the level of stress generated by these assessments was unanticipated. This information is summarized in Table 5.



Table 5  
Stress Levels According to Assessment Types.

	Very Stressful	Stressful	Not Very Stressful	Not Stressful at All	Neutral	Not Applicable
Observation reports	3%	25%	14%	4%	41%	13%
Weekly journals	2%	13%	21%	15%	35%	13%
Term papers, essays, written assignments	28%	51%	6%	2%	13%	0%
In-class assignments	4%	24%	24%	12%	36%	0%
In-class scenarios	31%	34%	8%	4%	16%	7%
Closed-book exams	23%	56%	6%	1%	14%	0%
Open-book exams	1%	25%	27%	11%	35%	1%
Cheat-sheet exams	1%	26%	24%	6%	38%	5%

The hypothesis that open-book exams are less stressful for students has been confirmed since most students do not find them to be very stressful. But this has also exposed that term papers are, similarly, highly stressful for students. It should be explored more in depth in order to find a practice that would help decrease stress levels with these particular types of written assessments.

#### 5.4. Favoured Types of Assessments

This section depicts results to the research question regarding types of in-class assessment students prefer between closed-book, open-book or cheat-sheet examinations.

Students were asked “What is your preferred in-class written exam type?”. The responses are very clear: 60 percent of students prefer open-book exams. In contrast, 20 percent of students prefer closed-book exams. However, students rated cheat-sheet exams as their least preferred choice as only 16 percent of students prefer them. Finally, 5 percent of students answered they did not have a preference.

It is not surprising that students prefer open-book exams. This answer has confirmed our hypothesis. The surprising answer was that more students prefer closed-book exams compared to cheat-sheet exams. The opposite would have been expected since open-book exams and cheat-sheet exams are rather similar since they both allow use of course material while writing the exam.

## **5.5. Reasons Why Students Cheat**

This section analyses the results obtained for the research question regarding reasons behind academic dishonesty. Do students cheat because they are stressed regarding their performance or because of the type of in-class assessment they take?

We will start by analysing ways students have used to cheat. As previously mentioned, 377 students answered that they cheated at least once since starting their program. That is an 84 percent cheating rate over four different career programs. Although it was expected that students cheat, it was surprising that the number is so high. Compared to studies that have been previously conducted, this number confirms students in CEGEP are no different than in other higher learning facilities.

Students were asked 11 questions pertaining to how they cheated during in-class examination and one question regarding written assignments (see Table 6). They explained how students cheat while undergoing in-class assessments. Students answered, in a proportion of 78 percent, that they got the answers from someone who had already done the examination. Another strategy 48 percent of students used, was to copy from another's work (written assignment). Fifty-three percent of students stated that they helped someone cheat. Fifty-two percent of students admitted they copied from the exam of another compliant student. Thirty-five percent of students admitted they copied from the exam of another student without their knowledge. Twenty-seven percent of students answered that they used digital technology (such as texting). Twenty-one percent of students stated that they used unauthorised paper crib notes and 17 percent of students used electronic crib notes. Twenty-four percent of students admitted using electronic devices during an examination. Twenty-four percent of students used a false excuse to avoid doing the examination on that day. Furthermore, 49 percent of students admitted that they shared the scenario

of their practical exam. And finally, 31 percent of students admitted cheating in other ways that have not been specified in the survey.

Table 6:  
How often have you engaged in the behaviour since starting in your program?

	Once	More Than Once	Regularly	Never	N/A
Getting questions or answers from someone who has already taken the exam.	29%	40%	9%	17%	5%
In a course, copying another student's work rather than writing your own.	21%	25%	2%	48%	4%
Helping someone else cheat on an exam.	23%	28%	2%	44%	3%
Copying from another student during an exam with his or her knowledge.	23%	25%	3%	45%	3%
Copying from another student during an exam without his or her knowledge.	17%	16%	2%	62%	3%
Using digital technology (such as text messaging) to get unpermitted help from someone during an exam.	7%	9%	1%	81%	3%
Using unpermitted handwritten crib notes (or cheat sheets) during an exam.	16%	12%	2%	68%	3%
Using electronic crib notes (stored in tablet, phone, or other device) to cheat on an exam.	9%	8%	0.50%	79%	3%
Using an electronic/digital device as an unauthorized aid during an exam.	8%	9%	1%	80%	2%
Using a false or forged excuse to obtain an extension on a due date or delay taking an exam.	13%	9%	3%	74%	2%
Sharing the scenario of a practical evaluation with a classmate who has not yet been assessed.	24%	19%	6%	46%	5%
Cheating on an exam in any other way.	14%	15%	2%	61%	8%

Students were given 13 questions (reasons) pertaining to why they cheated (see Table 7). The answers were given using a Likert scale from *Strongly Agree* to *Strongly Disagree*.

Thirty-six percent of students answered that they *Strongly Agree/Agree* they cheated because they were not prepared for the exam. Forty-three percent of students *Strongly Agree/Agree* they cheated because they were unsure about their own knowledge. Fifty-four percent of students *Strongly Agree/Agree* they cheated to confirm their answers. Forty-two percent of students answered they *Strongly Agree/Agree* they cheated because they could not answer the questions. Forty-six percent of students stated that they *Strongly Agree/Agree* they cheated because of a memory loss. Regarding memorization, 35 percent of students *Strongly Agree/Agree* they cheated because the exam was based on memorization. On the other hand, 17 percent of students *Strongly Agree/Agree* and 24 percent *Neither agree or disagree* that they cheated because the exam was based on interpretation of the material.

Other reasons given for cheating have to do with grades. Students admitted cheating in order to get better marks: 42 percent of students *Strongly Agree/Agree* this was the main reason. Another incentive that has motivated students to cheat was because students got low grades in the 1<sup>st</sup> exam: 15 percent of students *Strongly Agree/Agree* but 11 percent of students *Strongly Disagree* with this statement. Many students want to keep a high “R” score: 30 percent of students *Strongly Agree/Agree* this is why they cheated while 15 percent of students *Neither agree/Disagree* this is what motivated them to do so. Finally, 20 percent of students answered they *Strongly Agree/Agree* that they were anxious about graduating on time, which is why they cheated.

Lastly, reasons for cheating have to do with the teacher. Some students answered that they cheated because the teacher did not explain the course material well: 29 percent of students *Strongly Agree/Agree* with this. Finally, students cheat because the teacher ignores (does not confront student) or doesn’t notice teaching during an exam: 20 percent of students *Strongly Agree/Agree* with this statement, but 15 percent of students also disagree with this statement.

Table 7  
Reasons for Cheating

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	I Do Not Cheat
I cheated because I did not prepare for the exam.	9%	27%	14%	11%	6%	33%
I cheated because I am not sure about my own knowledge.	13%	30%	13%	8%	2%	34%
I cheated to confirm my answers by looking at what others have written.	20%	34%	7%	4%	2%	33%
I cheated because I could not answer the questions.	12%	31%	13%	7%	2%	36%
I cheated because I could not remember the answers (loss of memory).	13%	33%	11%	6%	3%	34%
I cheated in order to get better marks.	15%	27%	14%	6%	5%	33%
I cheated because I am anxious about not graduating on time.	10%	10%	14%	17%	14%	35%
I cheated because the teacher did not explain the course material effectively.	10%	19%	21%	10%	6%	33%
I cheated because students got low grades in the first exams.	20%	11%	20%	17%	4%	37%
I cheated because exams are based on memorizing the material only.	15%	20%	16%	8%	6%	35%
I cheated because exams are based on interpretation of the material only.	5%	11%	24%	16%	8%	36%
I cheated because teachers ignore or do not notice cheating during exams.	5%	15%	19%	15%	10%	37%
I cheated because I need to keep my "R" score high.	10%	20%	15%	10%	9%	36%

The hypothesis that students cheat because they are stressed regarding their performance or because of the type of in-class assessment they take has somewhat been confirmed. The data is clear that students are stressed because of in-class examination. Many students cheat because of memory loss/memorization (46 percent & 35 percent). Many students cheat in order to obtain a

better mark (42 percent) or keep their “R” score high (30 percent). Not being sure of one’s own knowledge as well as being unable to answer a question can happen no matter the type of exam given. Therefore, we can conclude that types of assessments and grades are linked to academic dishonesty, but more research would be needed in order to fully confirm this hypothesis.

## **5.6. Preparation Time**

This section depicts results to the research question regarding students’ preparation time pertaining to closed and open-book examinations.

Data collected confirms that students take more time to prepare for closed-book exams. Thirty-one percent of students answered that they spend over four hours preparing for closed-book exams compared to 32 percent of students who take between 30 minutes and one hour to prepare for open-book exams and 33 percent of students take between one and two hours to prepare for cheat-sheet exams.

Students do not need to invest as much time preparing for an open-book exam as they would for a closed-book exam. None the less, 60 percent of students spend a minimum of 30 minutes to a maximum of two hours to prepare for an open-book exam. We expected that most students did not prepare for an open-book exam, but only 13 percent of students do not prepare for an open-book exam. For closed-book exams, 79 percent of students answered that they spend a minimum of two hours studying.

Table 8  
Exam Preparation Time

	Between 30 minutes and one hour.	Between one and two hours.	Between two and three hours.	Between three and four hours.	Over four hours	I do not study prior to the exam.
How much time do you spend, approximately, preparing for a closed-book exam?	5%	14%	25%	23%	31%	1%
How much time do you spend, approximately, preparing for an open-book exam?	32%	28%	13%	8%	5%	13%
How much time do you spend, approximately, preparing for a cheat-sheet exam?	20%	33%	21%	13%	7%	8%

The hypothesis that students tend to prepare less for an open-book examination has been confirmed.

## 5.7. Students Ethics

This section depicts results to the research question regarding students' attitude when it comes to cheating. Table 9 illustrates the differences in opinions between students who admitted cheating and those who stated they did not cheat. There are big divergences in opinions when students are asked what they consider serious cheating. Students who have admitted cheating tend to consider academic dishonesty as less serious than those who stated they do not cheat. As an example, only 10 percent students who have cheated consider "Getting answers from someone who already took the exam" serious cheating compared to 30 percent of those who do not cheat. Another discrepancy in opinions is noted when asked how they rate "Copying with another student's knowledge". Fifty-four percent of students who have cheated consider this behavior serious cheating compared to 70 percent of students who have not cheated. According to 42 percent of students who cheat, "helping someone else cheat" is considered serious cheating versus 61

percent of students who do not cheat. The biggest divergence in opinions is noted for “sharing the content of a practical scenario”. No students (0 percent) who admitted cheating consider this serious cheating, quite the opposite, since 36 percent believe it is insignificant cheating while 37 percent of students who don’t cheat believe this is serious cheating.

Both groups’ answers, those who cheat and those who don’t, are similar pertaining to moderate cheating behaviour.



Table 9  
Opinion Pertaining to Cheating According to “Cheating” or “Non-cheating” Students

	<b>Cheating<sup>9</sup></b>	<b>Cheating</b>	<b>Not cheating<sup>10</sup></b>	<b>Not cheating</b>
Getting answers from someone	10% serious cheating	40% moderate cheating	30% serious cheating	44% moderate cheating
Copying another’s work	42% serious cheating	35% moderate cheating	56% serious cheating	31% moderate cheating
Helping someone cheat	42% serious cheating	38% moderate cheating	61% serious cheating	23% moderate cheating
Copying with another student’s knowledge	54% serious cheating	32% moderate cheating	70% serious cheating	25% moderate cheating
Copying without student knowledge	77% serious cheating	18% moderate cheating	82% serious cheating	15% moderate cheating
Using Digital tech texting	78% serious cheating	17% moderate cheating	90% serious cheating	7% moderate cheating
Using paper crib notes	69% serious cheating	24% moderate cheating	82% serious cheating	15% moderate cheating
Using electronic crib notes	77% serious cheating	19% moderate cheating	83% serious cheating	14% moderate cheating
Using electronic device	80% serious cheating	15% moderate cheating	89% serious cheating	8% moderate cheating
Using false excuse	30.5% serious cheating	31% moderate cheating	48% serious cheating	17% moderate cheating
Sharing scenario	36% <b>Insignificant cheating</b>	32% moderate cheating	37% Serious cheating	44% moderate cheating 15% <b>insignificant cheating</b>
Any other way	42% serious cheating	44% moderate cheating	63% serious cheating	32% moderate cheating

<sup>9</sup> Students who admitted cheating at least once.

<sup>10</sup> Students who stated that they never cheated.

The hypothesis that students understand cheating is wrong has been confirmed. They are able to rate academic dishonesty according to levels of seriousness. But students who cheat seem to have lower ethical issues regarding cheating than students who do not cheat. Regarding the second part of the hypothesis, if students cheat to improve their academic performances, if we refer to section 5.5. pertaining to “Reasons Why Students Cheat”, it is clear that students cheat to improve their grades (42 percent), therefore this has also been confirmed.

## **5.8. Students’ Satisfaction**

This section discusses results related to questions regarding students’ satisfaction levels regarding assessments given in their program. A 6-point Likert scale was used to answer four different questions.

The first question asked students’ opinions pertaining to the degree of difficulty of in-class written exams. Seventy-five percent of students *Strongly Agree/Agree* that it is appropriate and only 6 percent of students *Disagree/Strongly Disagree*. Similarly, 77 percent *Strongly Agree/Agree* that the degree of difficulty of assignments is appropriate for their year level and program.

Sixty-six percent of students *Strongly Agree/Agree* that the different types of assessments used in their courses are effective at evaluating their level of understanding of course concepts, and only 9 percent of students *Disagree/Strongly Disagree* to this statement. This implies that we, as teachers, could greatly improve the way we evaluate our students by finding more effective ways, hence, not rely so much on memory but knowledge and understanding of course material.

Finally, students were asked whether the different types of assessments used in their courses are effective at helping them learn course concepts. Seventy-one percent of students answered that they *Strongly Agree/Agree* they do, and only 9 percent of students answered that they *Disagree/Strongly Disagree* with this statement. It is clear through data obtained that students are generally satisfied with the difficulty level of in-class examinations.

Table 10  
Students' Satisfaction Level Regarding Assessments

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
The degree of difficulty of in-class written exams is appropriate for my year level and program.	18%	57%	19%	6%	0.4%
The degree of difficulty of assignments is appropriate for my year level and program.	18%	59%	16%	6%	1%
The different types of assessments used in my courses are effective at evaluating my level of understanding of course concepts.	13%	53%	25%	7%	2%
The different types of assessments used in my courses are effective at helping me learn course concepts.	15%	56%	20%	7%	2%

The hypothesis that students' satisfaction levels will be low because of the exam types they are taking has been confirmed to a certain degree. The average level of satisfaction being only 71 percent for the four above-mentioned questions, which is rather low, was not as low as we expected.

### 5.9. Gender, Age, Marital Status

This final section deals with student identities. Regarding student identities, 77 percent of students identified as male, 89 percent of students identified as female, and about 3 percent of students identified as "other". Sixty-eight percent of students stated that they were between 17 and 20 years old. Twenty-two percent of students stated that they were between 21 and 24 years old. Only 7 percent of students stated being between 25 and 29 years old. A little less than 2 percent of students are over 30 years of age. Finally, 71 percent of students identified themselves as single, 12 percent of students identified themselves as common law or married, and 17 percent of students identified themselves as "other" or did not answer the question.

## CHAPTER SIX: DISCUSSION AND CONCLUSION

### 6.1. Discussion of main results

The results of this research have helped confirm that, indeed, CEGEP students do cheat for various reasons. The high percentage (84 percent) of students who admitted being dishonest was surprising. It was expected that a majority of students cheated but it was staggering to see that such a high number of students have, at some point or another, cheated. We must take into consideration one factor when analysing this data. There was one section of the questionnaire that was devoted to different ways students have cheated. This was the section used to gather data on academic dishonesty. In another section, students were asked to justify why they cheated (see Table 6 on page 61). The data in that section is consistent as 33 to 37 percent of students have answered “I do not cheat” to all of the questions. If we analysed this data alone, then the number of students who have cheated would be about 63 to 67 percent. But students who have answered that they never cheated have positively answered at least one of the twelve questions pertaining to ways they have cheated (see Appendix A, questions #27-38). We believe that the reason why there is a discrepancy in the answers provided is because it may be difficult for some students to admit cheating. By providing an answer as to *how* they cheated, it may feel less “accusatory” or may make them feel more at ease to admit a cheating behaviour rather than answer a question starting with “I cheated because”. It is human nature to try to exculpate oneself, many criminals never willingly admit they are guilty. Hence, by denying they cheat but answering how they “might have cheated”, students do not openly and directly admit to academic dishonesty. Therefore, it may make it easier to disclose.

#### 6.1.1 Incentive to Cheat

The results obtained have clarified a few questions we had. It is clear that students cheat less during an open-book exam. This is not surprising as it was hypothesised that if students had access to their course notes and books during an exam, the incentive to cheat would decrease. It will not completely eradicate cheating since 43 percent of students have admitted that they cheated because they were unsure about their own knowledge or could not answer questions and this may

be true during an open-book exam as well. The literature states that open-book exams have the reputation of being harder as teachers can test deeper knowledge since students have access to course material (Heijne-Penninga, Kuks, Schonrock-Adema, Snijders, & Cohen-Schotanus (2008), Brightwell, Daniel & Stewart's (2004).

#### 6.1.2 Students' Stress Level

As reported by Kostouros & Bennett (2017), students particularly, are exposed to stress and mental health issues and the pressure to perform felt by students can create mental health problems. From the data obtained and analysed in this research, results show that closed-book exams are the biggest stress generators for all students. This is true when they think about an upcoming closed-book exam, and when they are writing one as well. Seventy-nine percent of students find closed-book exams stressful compared to 73 percent of students who do not find open-book exams to be a high source of stress. This was the response rate we expected. 68 percent of students feel this way towards cheat-sheet exams as well (less stressful).

Even though cheat-sheet exams are not thought to be as stressful as closed-book exams, it is recommended that open-book exams be the preferred choice as an in-class assessment method. To paraphrase Harvard Physics Professor Eric Mazur<sup>11</sup>, preparation for a cheat-sheet exam becomes information management more than anything else. Deep learners know exactly how to organise an effective cheat-sheet while surface learners will not be as efficient. Therefore, it becomes a tool that may not be useful to all students compared to equal access to all notes and textbooks.

It was surprising to note that parents have less of an impact as previously suspected on stress and grades. An equal number of students either stated that their parents pressured them to have good grades or did not. It was originally believed that students would feel a lot more pressure from their parents to obtain good grades. Conversely, students seem to put a lot of pressure on themselves as 80 percent feel compelled to have good grades. This may be easily explained by the

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<sup>11</sup> Eric Mazur is a strong advocate for peer instruction, including the use of open-book exams as an effective assessment technique.

fact that many of them require high marks to apply to University or other competitive CEGEP programs. Many programs in universities require very high “R” scores and students are aware of this and getting high grades becomes a stressful part of their academic journey. Over 70 percent of students acknowledged this was nerve-wracking for them but not enough to motivate them to cheat (30 percent).

Armstrong & Young (2015) report the fact that Canadian higher education institutions do not put enough emphasis on students’ mental health issues, such as anxiety and stress. Now that we know we can alleviate some of students’ stress simply by modifying assessment methods, would that not be a step in the right direction in keeping students mentally healthy?

### 6.1.3 Favoured Types of Assessments

The results obtained from students pertaining to examination preferences are not surprising at all. In fact, this was the expected response. A majority of students prefer open-book exams. This may be explained by the fact that many students find them less demanding regarding preparation time and less stressful. Also, students do not have to rely solely on memory but rather from an understanding of the course material and where it is found in their course notes and books. For someone who has difficulty memorizing material, the fact that they may rely on notes and books to help them through an exam may be beneficial and less nerve-wracking. Gill (2015) states that assessments potentially influence students’ confidence as some may ask themselves whether higher education is right for them and if they can succeed. Open-book exams give everybody an equal chance to succeed as they have access to the same material. Memory or information management (through a cheat-sheet) will not influence students’ results with these types of assessments. What may impact students’ performance is their preparation for the exam and the comprehension of the course material. Williams’ (2006) study reports that a majority of students find open-book examination format more intellectually challenging. It seems to be a known fact, which is acknowledged by students, that open-book assessments are more difficult. Heijne-Penninga, Kuks, Schonrock-Adema, Snijders, & Cohen-Schotanus (2008) confirm this when they state that more subjects may be covered as students do not have to retain everything. Theophilides & Dionysiou (1996) also state that students feel more confident and optimistic about their

performance when they are assessed with an open-book exam. The results of this research also confirm Brightwell, Daniel & Stewart's (2004) findings that students prefer open-book exams even if they find them harder than closed-book exams.

#### 6.1.4 Reasons Why Students Cheat

Many different choices were given to students to explain why they cheated (See Appendix A questions #51-63). Many more could have been selected. The justifications were enlightening. The main reasons why students cheat have to do with being unsure about their own knowledge, or to confirm their answers, or not being able to answer questions or because of memory loss. If we link these reasons with the types of exams given to students, it becomes clear that having to memorize the course material may increase the incentive to cheat as students may be unsure of their own knowledge or may forget the material which can result in an incapacity to answer questions. Even if students are allowed to consult their notes and books, they may still doubt their answers and could cheat in order to validate what they have written. As was stated from the beginning of this research, open-book and cheat-sheet exams do not eradicate cheating but might decrease the incentive to cheat. Nonetheless, open-book exams would help students feel more secure and lessen the temptation to cheat as they do not have to struggle to remember everything using only their memory.

The next two most popular reasons why students cheat are because they have not prepared for the exam and to get a better grade. Some may argue that if students choose to not properly prepare for their exams, examination type has no influence on their incentive to cheat. Whereas, it is established in section 6.1.5 (Preparation Time) that students require a lesser amount of time to prepare for open-book examinations. Nonetheless, the stress level of being unprepared for an exam, where one had to learn everything by heart, is much higher than the stress level of being unprepared for an exam where the course material is readily available. Therefore, the incentive to cheat may be lessened for a student who comes in unprepared for an open-book exam.

Likewise, the drive to want a better grade may influence students to cheat no matter the type of in-class examination they are taking. As reported by Heijne-Penninga, Kuks, Schonrock-

Adema, Snijders, & Cohen-Schotanus (2008), Theophilides & Dionysiou (1996), Block (2012), and Brightwell, Daniel & Stewart (2004), students find open-book examination format equal or more difficult than closed-book examinations. Therefore, they may cheat no matter the exam type in order to obtain better marks. Students who are less confident in their abilities to perform may be more prone to cheating no matter the type of exam they have to write. They may doubt their memories during a closed-book exam or may distrust their answers even if the course material is right in front of them, especially if they have to interpret the material. And those who want better grades may cheat as a way to ensure a better result. Yet, as stated by Nath & Lovaglia (2009), students who cheat do not really learn anything as they only try to remember facts and not necessarily understand them. Hence, cheating does not help them learn in the long run even if they believe it does. Getting good grades, and doing so while cheating, does not necessarily equate to understanding the material.

On the other hand, two factors were found to play only a small role in the motivation to cheat. First, when students got low grades on the first exam. Second, whether the teacher was viewed as effective in explaining course material. Therefore, we can conclude that teachers viewed by students as competent in explaining course material and teachers who give “easier” exams decrease students’ incentive to cheat as well. If students believe that their teacher was unable to help them acquire the knowledge and skills required to perform well on the exam, it increases both their stress and academic dishonesty. Students may feel stress writing the in-class exam because they feel they are not well prepared, due to their teachers. Therefore, they may compensate this by cheating during the exam. Another explanation could be seen as a form of vengeance for this perceived incompetence. Students may cheat as a way to “punish” their teachers for not properly transmitting the information. This way, it becomes the teachers’ fault, and not their own, if they had to resort to cheating. Consequently, students may feel justified and less guilty for being dishonest. Cole & Kiss’ (2000) findings conclude that students are less likely to cheat if they respect their teacher and are motivated by what they are learning. This fact is also confirmed in this research.

Next, students cheat because they need to keep a high “R” score, and because exams are based on memorization only. Likewise, having and keeping a high “R” score is a great concern for



some students just like having good grades, but is a minor motivator to cheat according to our data. We believe that the reasons for cheating because of the “R” score are similar to those for getting high grades. Another reason students cheat is because exams require memorization only. The only type of in-class examination that requires memorization is closed-book exams. Therefore, if teachers want to decrease the incentive to cheat pertaining to memorization, they need to change their exam types to open-book exams. Although not the leading cause for cheating, exams based on memorization are a motivation to cheat for 35 percent of students. This could easily be changed by modifying the way students are assessed. Open-book exams do not rely solely on memorization and may help students learn more deeply as reported by Heijne-Penninga, Kuks, Schonrock-Adema, Snijders, & Cohen-Schotanus (2008), Block (2012), and Theophilides & Dionysiou (1996).

Some students admitted that they cheated because they are anxious about not graduating on time. As was reported by Paulhus & Dubois (2015), the need to perform and the competitive nature of our schooling system clearly contributes to students’ incentive to cheat. Just like Gulli, Köhler, & Patriquin (2007) state, this research also confirms that students are under lot of pressure, thus stress, so they turn to cheating as a solution to alleviate it. Students in career programs particularly can’t graduate just anytime. For example, in YACI, courses need to be done in a particular order and students need to finish their fieldwork placements in the winter semester. They could not do so in the fall semester. Therefore, if they have one missing core course or did not pass the second part of their fieldwork placement in the winter, it means that they will only graduate one year later. Therefore, some students may feel pressure to pass all the required courses in order to graduate on time. Hence, some may resort to cheating in order to ensure a passing grade. Unfortunately, programs such as YACI and PC only have one cohort every year which means courses are offered once every semester. If one student fails a course, they need to wait one year to redo the same course. As a result, it is difficult to decrease this particular incentive to cheat. There is currently no other solution for this issue.

Moreover, students have positively answered that when teachers have a reputation for giving especially hard in-class closed-book exams or when the results of the first exam are low, it motivates them to resort to academic dishonesty in order to improve their grades.

Another reason given by students for cheating is because exams are based on interpretation only. Unfortunately, the reason why exams are given is to evaluate students' understanding, hence interpretation, of course material. We believe the way this result could be explained is that some students prefer a balanced exam where some questions may not require an in-depth analysis of the material while others do. Therefore, it would not simply be interpretation, but "recall" or factual questions as well. It would also give all students a chance to perform better. Those who are not the best with interpretation could compensate by answering factual questions well.

Finally, students state that teachers who ignore or do not notice cheating increase the incentive to cheat, but to a lesser degree. There is only a 5 percent difference in opinion (*Agree* vs *Disagree*) when students state that they cheat because the teacher ignores cheating. Christensen Hughes & McCabe, (2006) have also stated that when students feel they will not get caught they tend to cheat more. But our data indicates otherwise, which means that teachers who "play cheating police" versus those who do not, have no influence on in-class academic dishonesty. Students who want to cheat will do so no matter what the teacher's attitude is towards cheating. Sigmund & Kerkvliet (1999), stated that if teachers put more emphasis on honesty it would decrease academic dishonesty as well as creating more than one copy of the same examination. They also reported that when examinations are surveyed by tenured faculty it decreases the incentive to cheat. As Cole & Kiss (2000) reported, students who respect their teachers tend to cheat less. It would be interesting to pursue another study in order to verify if students cheat more when courses are being taught by part-time teachers. It is believed that teachers do not put a lot of emphasis on the importance of honesty and assume students know cheating is wrong and have good ethics. Perhaps if teachers took the time to point out cheating is wrong and is not tolerated within their program and within the college, it would motivate students to cheat less as they would see cheating is strongly discouraged and comes with serious consequences. The other problem also resides in the fact that faculty who catch students cheating may feel that they will not be supported by the college should they report the issue. Many teachers feel that proving a student has cheated is complicated and will be discredited because "students are always right". Therefore, they tend to ignore cheating or will not take action for this reason. Or teachers may only confront the student but not pursue the issue further, no consequence is given. The JAC IPESA on Academic Integrity on Cheating and Plagiarism states that the following procedure must take place when reporting an incident:

“The teacher will advise the Dean of Academic Systems, in a written report, of the details of the incident. A copy of the report will be made available to the student by the Dean of Academic Systems. The report should include: a. a brief description of the incident; b. a copy of the course outline; c. the assignment instructions or test given to students; d. any other pertinent documents.”

After being through this lengthy procedure, students are only given a warning. They are not expelled from a program nor the college. After a second cheating incident, the “Dean of Academic Systems may recommend to the Academic Dean the suspension or expulsion of the student”. It does not state that the student will be suspended or expelled but only *may* be so. This can be frustrating for teachers because, as mentioned above, they may feel students have all the rights and, as teachers, they have little recourse. Perhaps if teachers felt 100 percent supported in cases of cheating, or if cheating would be easier to prove<sup>12</sup> perhaps teachers would enforce policy strongly and may not “ignore” cheating as much.

What is clear from this data is that many students “help” each other cheat (over 50 percent). About one third (35 percent) of students cheat by looking at an unsuspecting student’s exam. It was believed that digital technology played a bigger role during in-class examination cheating. It helps students in just under 30 percent of cases. This may be because devices are not as easy to hide as a paper note. Devices tend to be big and bulky which could lead students to be caught more easily. One of the most common ways students cheat is by sharing the scenario of a practical exam. For many students (see section 5.7 Students Ethics) this is not considered as cheating since their classmates still have to undergo the scenario which can be unpredictable. Finally, it was surprising that 24 percent of students use a false excuse to delay taking the examination, which in turn can lead to sharing exam questions later on. For teachers, this cheating technique is difficult to avoid since it can be problematic to verify if a student is actually sick or simply delaying the inevitable. As well, this would imply that teachers need to write another exam in case some students are sick. Even if teachers have two versions of the same examination, questions may still be shared. Should all teachers have an extra copy in cases of absenteeism? This would increase teachers’ workload

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<sup>12</sup> For example, when a student is seen looking at another students’ exam copy, it is difficult to prove they have been cheating. It’s the teacher’s word against the student’s.

for a small number of absent students. Looking at the results, the motivation for cheating is, mostly, linked to course material, memorization and not being able to answer a question.

#### 6.1.5 Preparation Time

Students take time to prepare for assessments. Preparing for closed-book exams is the most time consuming according to students. Most students spend between two and four hours to study for a closed-book exam. This is perfectly normal as they have to learn the course material covered in this assessment by heart. It takes time and effort to do so. However, most students spend less than two hours to prepare for an open-book exam. Admittedly, if one does not have to learn something by heart but is allowed to have their notes, less time is required to prepare. As an example, if someone had to present a poem in front of a group but was not allowed the paper on which the poem was written, hence had to learn the poem by heart, it might take that person hours to learn every single word of that poem. On the other hand, if that person was allowed to read the poem, the investment of time put into the presentation would be decreased. This is perfectly normal and is not the result of laziness. Students do not have to invest as much time preparing for an open-book exam as they do for a closed-book exam. Finally, students spend between one and three hours preparing for a cheat-sheet exam. They, indeed, need to invest more time preparing as they need to organise their cheat-sheet with all of the required information they want on it. It is more time-consuming than reviewing their notes or book chapters.

The type of in-class examination being given to students is another factor to consider if teachers want to help their students. Today's students have busy lifestyles since many of them work hours outside of school. Since open-book exams do not necessitate as much preparation time as a closed-book exam, this may also help reduce students' stress since it may help with their time management issues.

#### 6.1.6 Ethics

Students know and understand that cheating is wrong. That much is clear from the survey results. There are differences in opinions coming from students who admit cheating versus those

who don't. It is interesting to note that 31 percent of students who do not cheat stated that they believe JAC students cheat *Very often/often* during in-class tests or exams compared to 40 percent of students who admitted cheating, who stated that they believe JAC students cheat *Very often/often* during in-class tests or exams. Those who cheat believe more students do the same as they do. Conversely, honest students believe more students are honest than not.

It is clear that students who cheat do not consider the behaviour as problematic as those who do not cheat (see Table 9). Cole & Kiss (2000), Küçüktepe (2014), Christensen Hughes & McCabe, (2006), & Paulhus & Dubois (2015) all reported that students who cheat do not view academic dishonesty as problematic or unethical. JAC students have confirmed these results as well. Students who admitted cheating all find, in lower numbers, that the above-mentioned behaviours (see Appendix A, questions 39 to 50) are not as serious compared to non-cheating students who find them serious issues in higher numbers. Dishonest students also tend to rate moderate-cheating behaviour lower than non-cheating students. This means that honest students judge academic dishonesty more harshly than those who are dishonest.

The most interesting result pertains to sharing a scenario during a practical exam. None of the students who cheat believe this is a serious issue, in fact, more students (36 percent) stated it was insignificant cheating! Only 31 percent stated that they considered this moderate cheating. On the other hand, honest students stated that it was serious cheating by 63 percent! This is a huge difference. And it is very surprising. It was expected that there would be differences in opinions regarding cheating but not such a huge discrepancy. This could be explained by the fact that it is human nature to justify a problematic behaviour. As an example, criminals tend to rationalize what they did in order to feel less guilty about it. "Everybody does it", "He got what he deserved". The same mindset may be applied to children who will either lie about a behaviour (such as taking a cookie without permission) or justify what they did in order to avoid being punished. CEGEP students are no different. Someone who cheats will not consider their behaviour as serious as it really is in order to be able to do it and not have too many regrets and feel remorse. Since they do it, it can't be *that* problematic, hence the lower rate of "serious behaviour". It is difficult to admit we are doing something wrong. Most people want to have a positive view of themselves. Admitting that cheating is a serious issue contravenes this.

Nonetheless, certain behaviours are considered more serious than others. For example, copying from another student during an exam with the student's knowledge is considered by all students as less serious than copying without the student's knowledge. If the other student is compliant, then it is not as bad. The other student becomes an accomplice therefore, some students may consider this as "not stealing" the information but more as mutual help.

It is also interesting to note that using unauthorized electronic devices during an exam is considered by most students as serious cheating. More so than using unauthorised crib notes! The only difference remains, as mentioned above, that fewer dishonest students consider this as serious cheating compared to honest students. Another curious point is that both groups of students (honest and dishonest) consider "getting the answers from someone else" and "copying someone else's work" as moderate cheating in equal numbers (about 40 percent and 31 percent respectively). Christensen Hughes & McCabe, (2006) had similar results in their research.

In conclusion, students understand cheating is wrong, they simply condemn it less when they do it. But the ethics of the behaviour is quite different from students who admitted cheating at least once and those who stated that they never cheated. The honest students consider most cheating behaviour as much more serious than those who admitted cheating at least once. Students who do not cheat tend to be less tolerant and understanding towards academic dishonesty. Students who do not cheat may feel that they work hard in order to succeed and find it frustrating that another may take a short cut in order to achieve the same results. Therefore, they tend to judge the behaviour more severely. Students also have a strange way of rating cheating behaviour. Some things are not as serious as others according to them. They do not always view cheating as cheating. Depending on what the behaviour is, it is judged more harshly. If we refer to Stephens (2018), it would be interesting to see if students also differentiate between cheating as a personal choice, hence less problematic, or a behaviour that is morally wrong, therefore more problematic.

#### 6.1.7 Student's Satisfaction

The results of the present study reveal that students are generally satisfied with the level of assessment difficulty. They also believe that the different types of assessments used help both

evaluate their understanding of course material as well as help them learn. The questions were aimed at evaluating students' satisfaction levels towards all types of assessments. Unfortunately, specific questions should have been asked towards their satisfaction level pertaining to types of in-class examinations as well. Looking back at the results now, students should have been asked whether or not they thought open-book exams or closed-book exams were better at evaluating their knowledge and understanding. The results obtained would have helped confirm other study results. In Block's (2012) study he reports that students feel an increased satisfaction pertaining to open-book examinations even if they find them tougher. The same results are observed by Broyles, Cyr, & Korsen's (2005), where over 60 percent of students enjoyed open-book exams. It is believed that the results would not have been much different with this research as most of the results obtained are consistent with the literature. Likewise, Broyles, Cyr, & Korsen's (2005) report that students welcome open-book examinations because they find it allows them to apply knowledge and not just memorize it.

#### 6.1.8 Gender, Age, Status

A majority of students who completed the survey are young single females and the majority of students who admitted cheating are also young single females. Christensen Hughes & McCabe, (2006) and Nath & Lovaglia (2009) reported that younger students cheat more. According to the literature, age and gender are sometimes linked to academic dishonesty. Young males tend to cheat more as reported by Sideridis, Tsaousis, & Harbi (2016), and Gibson, Khey, & Schreck, (2008). Whereas, McCabe, Treviño, & Butterfield, (2001), Becker & Ulstad (2007), Ip, Pal, Doroudgar, Bidwal, & Shah-Manek, (2018) stated that gender differences were either trivial or non-existent.

Our data confirms that 61 percent of students who admitted cheating identified themselves as female compared to 36 percent males. If we refer back to statistics regarding our sample population, 39 percent of students who participated in the survey identified as males and 58 percent identified as females. It is interesting to note that in programs such as Business Administration and YACI, there are more female students, in Paramedic Care the numbers are equal, and in Police Technology, there are slightly more male students (60/40). When it comes to academic dishonesty, our research demonstrated that the genders are reversed: Females tend to cheat more. One

hypothesis to explain the gender difference could be the fact that there are more male students in Police Technology and there is a lot of pressure in this program regarding honesty and good behaviour. Students may be less inclined to cheat in order to not jeopardize their chances of becoming police officers. It is known by the students that many police corps will communicate with their program Chairs in order to complete a background check. Most employers will not do the same in other programs. Therefore, behaviour in school may not be regarded as important by students from other programs.

Regarding age, 71 percent of students stated they were between 17 and 20 years old. 70 percent of students stated that they were single<sup>13</sup>. These results remain the same as was previously mentioned in the literature. Therefore, according to our data, young single females tend to cheat more than young single males.

## **6.2 Conclusions**

This research has been enlightening on many points. JAC students are no different than other Canadian students, they also cheat in great numbers. Students understand that academic dishonesty is wrong as they are able to categorise cheating behaviour according to its level of seriousness. Many students view cheating as wrong. On the other hand, when two students partner in their cheating efforts, it is not judged as harshly. Many students, 49 percent, admitted sharing scenarios during practical exams. Furthermore, many of them consider this insignificant cheating. Similarly, the use of technology to cheat is considered worse than a good old fashion unauthorised piece of paper during an exam. As well, dishonest students tend to disregard cheating more than those who do not cheat. Regarding assessments in general, only 66 percent of students believe that assessments used in their courses are effective at evaluating their level of understanding of course concepts. This is a rather low satisfaction rate.

When it comes to the behaviour itself, there are many factors to justify cheating. Students cheat to obtain better grades but also because of the types of exams they have to write. Moreover,

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<sup>13</sup> This percentage could be higher as many students answered “other” and specified they were dating which, legally, falls other the “single” category.



students cheat when they have to memorize course material and when they can't recall the information.

Technology also plays a smaller role in academic dishonesty than previously assumed. It is used about 17 percent of the time to cheat compared to unauthorised hand crib notes which are used 28 percent of the time.

But, no matter what the excuse is, students remain adamant that the type of exam given clearly influences their motivation to cheat. Especially since 81 percent of students admitted cheating because of a loss of memory. This would not happen during an open-book exam. Open-book exams as well as cheat-sheet exams generate the lowest incentive to cheat. Therefore, teachers who would like to decrease cheating during in-class assessments should consider using cheat-sheet (although not students' preferred exam type) and open-book exams.

This research did not have the pretension of finding ways to eradicate academic dishonesty, but, rather, find ways to decrease students' incentive to cheat. Students have been honest and have given us teachers a clear understanding of why they cheat and what we, as teachers, can do to decrease their stress and academic dishonesty. Open-book exams are not an infallible and invincible solution to cheating. We have demonstrated that students may cheat during an open-book exam if they are unsure about their knowledge. But, results clearly show that, open-book assessments are a good way to decrease in-class cheating during a written exam.

### **6.3 Limitations of the research**

One limitation of this study is that students from only four different programs were surveyed and not all JAC students. Regardless of this, our results confirm what was found in the literature and they are similar to those obtained by other researchers whose sample populations were larger.

Another limitation is that we should have written more specific questions pertaining to students' satisfaction level versus the types of assessments they have received. With the results

obtained, we can only conclude that students are generally satisfied but can not establish a link between their levels of satisfaction and closed or open-book exams such as was established in the literature.

## **6.4 Implications for future teaching practice**

In light of this research's findings, teachers should consider using open-book exams as an in-class assessment. It helps reduce students' stress levels, helps decrease students' incentive to cheat and may help assess at a deeper level as students do not have to rely on rote memorization, therefore, more material can be covered not simply at a surface level.

Even though a majority of students are satisfied with the types of assessments they are being given, about 30 percent are not. This means that one out of three students believe there are better ways to evaluate them. The question that we should ask ourselves as a higher education institution is: Are we satisfied with an average of 70 percent satisfaction rate? Should we not aim for a much higher satisfaction rate? Of course, some would say that we will never satisfy everyone, and we agree this would be difficult to do. But even if "only" 90 percent of students were satisfied, this result is better than the current 70 percent. Students are our clients, in a way. Would any business be content and satisfied with a client satisfaction rate of 70 percent? Of course not, they would aim to improve that rate to a much better one. Why should we be different? Shouldn't students be 100 percent satisfied about the education they receive? And assessments are a major part of their education. To listen to what students have to say about the way we teach them and about the way we assess them should be a priority if we want to improve and be the best we can be. We tend to think CEGEP teachers are experts, and they are when it comes subject-matter expertise. But the students are the experts when it comes to attending class, evaluating teachers and critiquing the types of assessments they receive. When is the last time any of their teachers have passed a written exam? A long time ago! Our memory tends to forget how most of us hated them, thought they were difficult and sometimes frustrating. Then why shouldn't we seriously consider students' opinions pertaining to assessments?

But a question remains: For whom are teachers doing exams? Do they do it for themselves and their own benefits or for their students? Teachers should keep an open-mind to the different types of assessments that may be given to students. Closed-book exams have been used for centuries, but are they still the best way to evaluate students? Many teachers are adamant that they will not give their students open-book exams, but they lack a strong argument to explain why they would not. The literature is clear that open-book examinations do not necessarily generate higher results. Students need to prepare for open-book exams just like they do for closed-book exams and open-book exams help decrease students' stress levels and performance anxiety as was exposed in the literature and results obtained through this research. Many teachers have noticed that over the years, students' anxiety has increased. It may be time teachers reconsider different ways of assessing students to help decrease some of their students' anxiety. The message from students is clear, cheating is linked to memorization and the types of exams they are being given hence, closed-book exams. If we want to decrease academic dishonesty during in-class assessments, open-book exams are one solution to this growing issue.

Teachers might also review what the purpose of an examination is. Is it to test students' understanding of the course material or is it to ensure students have the lowest grades possible? Many teachers still believe a low course average is a good thing when in fact it is not. Low grades reflect the fact that most students did not accurately understand what was being taught. If exams are made to test students' knowledge, then they should not be hard enough to discourage students and encourage cheating. If the class average is low, maybe teachers should reassess how they write their examinations or their level of difficulty and the reasons why they feel it should be so hard. Then, maybe, this would decrease students' incentive to cheat because of a difficult exam.

I have been using open-book exams as in-class assessment for four years. I never based this choice on research results or what the literature says. I decided to change the way I evaluated my students based on my gut instincts and students' reactions to closed-book exams. Over the years, I have received feedback from my students that they were less stressed in my courses during exams and that they would not cheat since they had all they needed to complete the exam. Following results obtained through this research, I shall continue to use open-book assessments in my courses by will also improve the way I write these assessments so that my students benefit

from it as much as possible. This research has officially confirmed what I have suspected for a few years now: Open-book assessments are beneficial to students and do not hinder their learning.

## **6.5 Suggestions for future research**

There were a few unexpected results found in this research. One of those is that students find term papers, essays and written assignments almost as stressful as closed-book exams. It would be interesting to research the reasons why these types of assessments are particularly stressful for students and ways this could be alleviated.

Another surprising finding was that students prefer closed-book exams compared to cheat-sheet exams. This was unexpected since open-book exams and cheat-sheet exams both encourage the use of some or all course material. This reason would need to be explored further as to better understand why more students would rather memorize their course material (which is more stressful and demanding) instead of preparing and having a memory aid.

Finally, our hypothesis that students cheat because they are stressed regarding their performance or because of the type of in-class assessment they take has only somewhat been confirmed. More research would be needed in order to fully confirm this hypothesis. A clear link would need to be established to confirm, without a doubt, that there is a link between stress and academic dishonesty.

## **6.6 Closing Summary**

JAC students are stressed and are motivated to obtain good grades for various reasons. Some will go to great lengths to achieve this and might resort to cheating in order to seek what they are after. Exam types play a key role when motivating students to cheat. Whilst they have to rely on memory alone to pass an exam, students' incentive to cheat increases, and so does their stress levels. Taking this into consideration, teachers should reconsider using only closed-book exams as their main assessment methods. Other options, such as open-book exams, are available

and are as effective when evaluating students' knowledge but decrease academic dishonesty and stress.

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**Appendix A**  
**Sample Questionnaire**

## Stress

This section asks you some questions about your level of stress pertaining to in-class written exams.

		Extremely	Quite a bit	Moderately	A little bit	Not at all
1	When you think about an upcoming open-book exam you will write, to what extent do you feel anxious/stressed?					
2	When you think about an upcoming closed-book exam you will write, to what extent do you feel anxious/stressed?					
3	When you think about an upcoming cheat-sheet exam you will write, to what extent do you feel anxious/stressed? (when a page full of crib notes is allowed during the exam)					
4	During closed-book exams I feel very stressed.					
5	During open-book exams I feel very stressed.					
6	During cheat-sheet exams I feel very stressed. (when a page full of crib notes is allowed during the exam)					
7	I feel stressed no matter which type of exam I take.					
8	During exams I find myself thinking about the consequences of failing.					
9	During exams I feel pressure to perform well and obtain the best possible grades.					
10	I need to have a high “R” score in order to get admitted into another program following this one.					
11	I feel a lot of pressure from my parents to have good grades.					

Rate the types of assessments you have been given so far in your program and rate them according to the amount of stress they have created for you:

		Very stressful	Stressful	Neutral	Not very stressful	Not stressful at all	Not applicable/Never had any
12	Observation reports						
13	Weekly journals						
14	Term papers, essays, written assignments						
15	In-class assignments (group work and/or solo work):						
16	In-class scenarios (acting):						
17	Closed-book exams						
18	Open-book exams						
19	Cheat-sheet exams						

### Cheating

How frequently do you think the following occur at John Abbott College?

		Never	Very seldom	Seldom/ Sometimes	Often	Very Often
20	Plagiarism on written assignments.					
21	Inappropriately sharing work in group assignments.					
22	Cheating during tests or examinations.					
23	Cheating during a closed-book exam.					
24	Cheating during an open-book exam.					
25	Cheating during a cheat-sheet exam.					
26	Cheating before a practical evaluation (scenario) by sharing the scenario.					

This section asks you some questions about specific behaviours that some people might consider cheating. Please remember that this survey is **completely anonymous** and there is no way that anyone can connect you with any of your answers.

How often have you engaged in the behaviour since starting in your program?

		Never	Once	More than one	Regularly	Not relevant
27	Getting questions or answers from someone who has already taken the exam.					
28	In a course, copying another student's work rather than writing your own.					
29	Helping someone else cheat on an exam.					
30	Copying from another student during an exam with his or her knowledge.					
31	Copying from another student during an exam without his or her knowledge					
32	Using digital technology (such as text messaging) to get unpermitted help from someone during an exam.					
33	Using unpermitted handwritten crib notes (or cheat sheets) during an exam.					
34	Using electronic crib notes (stored in tablet, phone, or other device) to cheat on an exam.					
35	Using an electronic/digital device as an unauthorized aid during an exam.					
36	Using a false or forged excuse to obtain an extension on a due date or delay taking an exam.					
37	Sharing the scenario of a practical evaluation with a classmate who has not yet been assessed.					
38	Cheating on an exam in any other way.					

How serious is the behaviour, in your opinion?

		Not Cheating	Insignificant Cheating	Moderate Cheating	Serious Cheating
39	Getting questions or answers from someone who has already taken the exam.				
40	In a course, copying another student's work rather than writing your own.				
41	Helping someone else cheat on an exam.				
42	Copying from another student during an exam with his or her knowledge.				
43	Copying from another student during an exam without his or her knowledge				
44	Using digital technology (such as text messaging) to get unpermitted help from someone during an exam.				
45	Using unpermitted handwritten crib notes (or cheat sheets) during an exam.				
46	Using electronic crib notes (stored in tablet, phone, or other device) to cheat on an exam.				
47	Using an electronic/digital device as an unauthorized aid during an exam.				
48	Using a false or forged excuse to obtain an extension on a due date or delay taking an exam.				
49	Sharing the scenario of a practical evaluation with a classmate who has not yet been assessed.				
50	Cheating on an exam in any other way				

Why have you cheated during an in-class written exam?

		Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I do not cheat
51	I cheated because I did not prepare for the exam.						
52	I cheated because I am not sure about my own knowledge.						
53	I cheated to confirm my answers by looking at what others have written.						
54	I cheated because I could not answer the questions.						
55	I cheated because I could not remember the answers (loss of memory).						
56	I cheated in order to get better marks.						
57	I cheated because I am anxious about not graduating on time.						
58	I cheated because the teacher did not explain the course material effectively.						
59	I cheated because students got low grades in the first exams.						
60	I cheated because exams are based on memorizing the material only.						
61	I cheated because exams are based on interpretation of the material only.						
62	I cheated because teachers ignore or do not notice cheating during exams.						
63	I cheated because I need to keep my "R" score high.						

The following section is about your opinion regarding cheating.

		Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	Not Sure
64	In your opinion, and to your knowledge, most students in your program cheat during in-class exams.						
65	In your opinion, and to your knowledge, only a minority of students in your program cheat during in-class exams.						
66	In your opinion, and to your knowledge, students in your program cheat more during closed-book exams.						
67	In your opinion, and to your knowledge, students in your program cheat more during open-book exams.						
68	In your opinion, and to your knowledge, students in your program cheat more during cheat-sheet exams.						
69	In your opinion, and to your knowledge, most students in your program cheat by sharing the scenario content of practical exams.						



## Assessments

The following section deals with preparation time for exams.

		I do not study prior to the exam	Between 30 minutes and one hour	Between one and two hours	Between two and three hours	Between three and four hours	Over four hours
70	How much time do you spend, approximately, preparing for a closed-book exam?						
71	How much time do you spend, approximately, preparing for an open-book exam?						
72	How much time do you spend, approximately, preparing for a cheat-sheet exam?						

The following section deals with your opinion regarding assessments.

		Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	Not Sure
73	The degree of difficulty of in-class written exams is appropriate for my year level and program.						
74	The degree of difficulty of assignments is appropriate for my year level and program.						
75	The different types of assessments used in my courses are effective at evaluating my level of understanding of course concepts.						
76	The different types of assessments used in my courses are effective at helping me learn course concepts.						

77- What is your preferred in-class written exam type?

- |   |  |
|---|--|
| <input type="checkbox"/> Closed-book exam | <input type="checkbox"/> Cheat-sheet exam  |
| <input type="checkbox"/> Open-book exam   | <input type="checkbox"/> None of the above |

The following section deals with personal (but not identifiable) information.

78- I identify my gender as:

- |                                      |  |
|--------------------------------------|--|
| <input type="checkbox"/> Man         | <input type="checkbox"/> Non-binary              |
| <input type="checkbox"/> Woman       | <input type="checkbox"/> Third Gender            |
| <input type="checkbox"/> Transgender | <input type="checkbox"/> Two-Spirit              |
| <input type="checkbox"/> Transsexual | <input type="checkbox"/> Bi-Gender               |
| <input type="checkbox"/> Cisgender   | <input type="checkbox"/> Genderfluid             |
| <input type="checkbox"/> Genderqueer | <input type="checkbox"/> Would rather not answer |
| <input type="checkbox"/> Agender     | <input type="checkbox"/> Other. Please specify:  |
| <input type="checkbox"/> Binary      | <hr/>  |
| <input type="checkbox"/>             |  |

79- Age:

- ☐ 17-20 years old
- ☐ 21-24 years old
- ☐ 25-29 years old
- ☐ 30-34 years old
- ☐ 35-39 years old
- ☐ Over 40 years old
- ☐ Would rather not answer

80- Status:

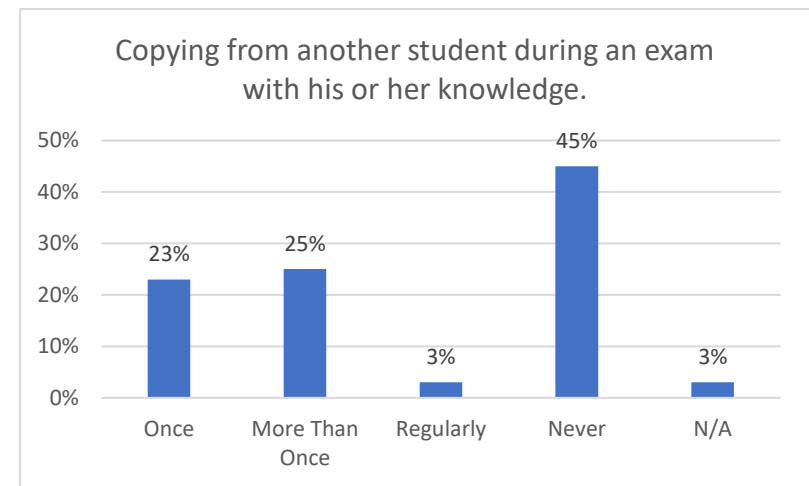
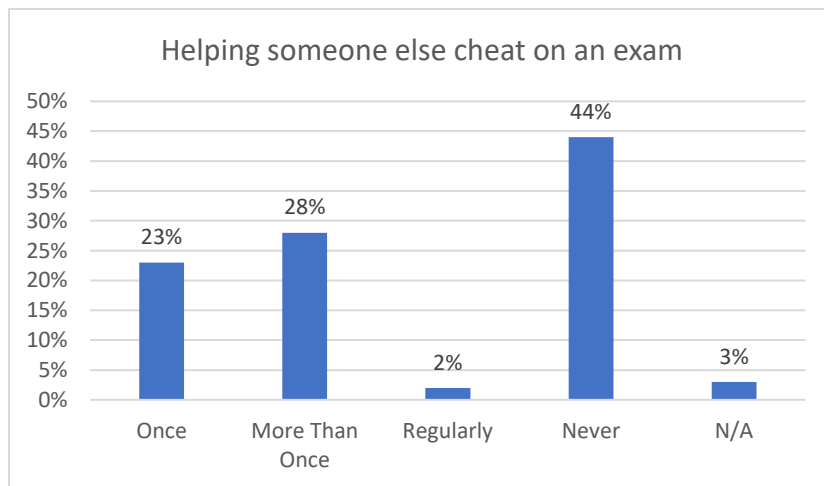
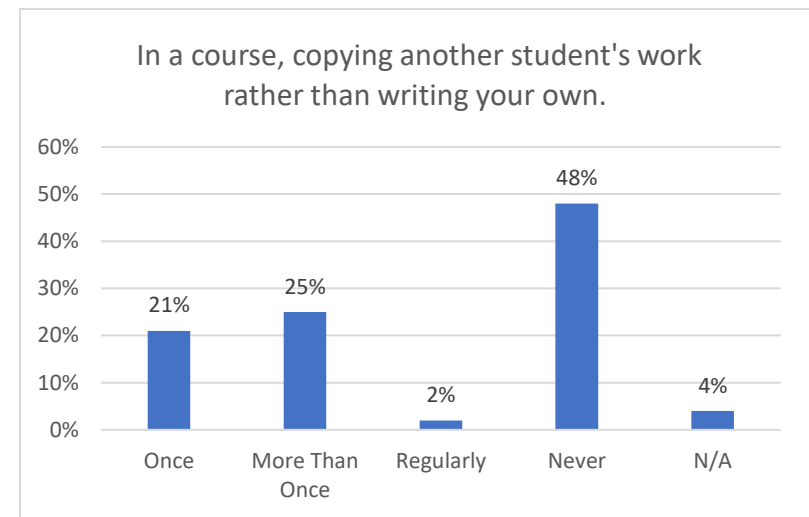
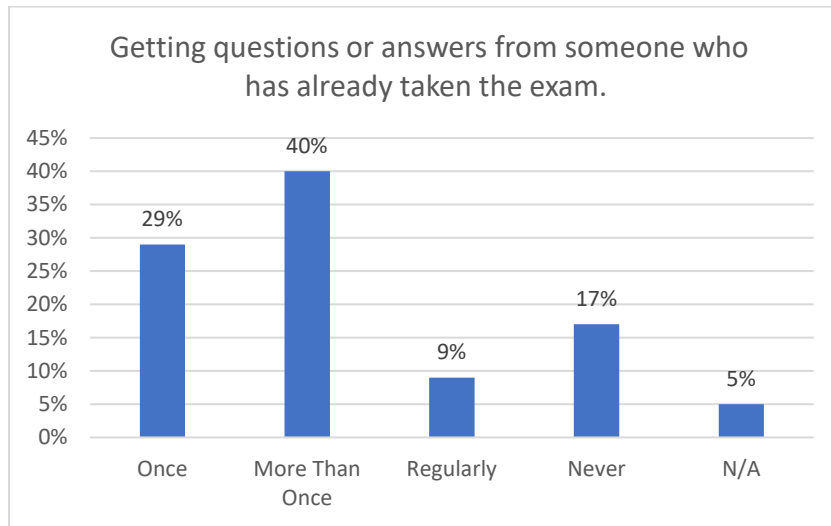
- ☐ Single
- ☐ Married
- ☐ Common-law relationship
- ☐ Widowed
- ☐ Would rather not answer
- ☐ Other. Please specify: \_\_\_\_\_

## **Appendix B**

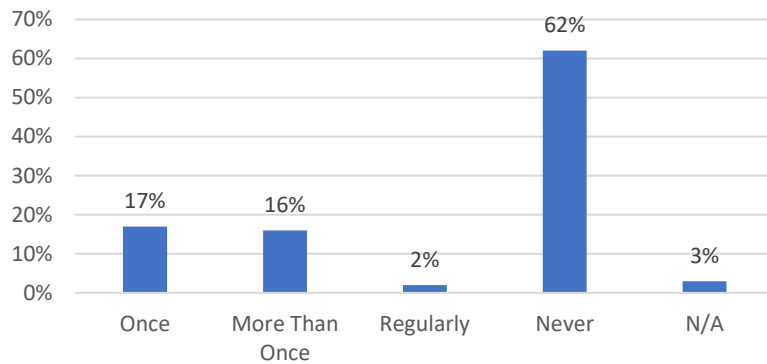
### **CHARTS**

## CHARTS 1:

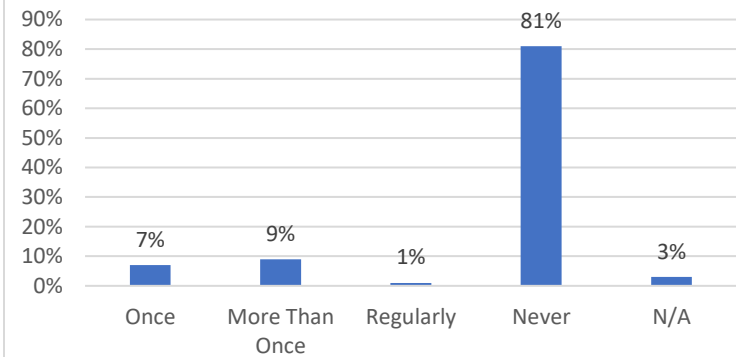
How often have you engaged in the behaviour since starting in your program?



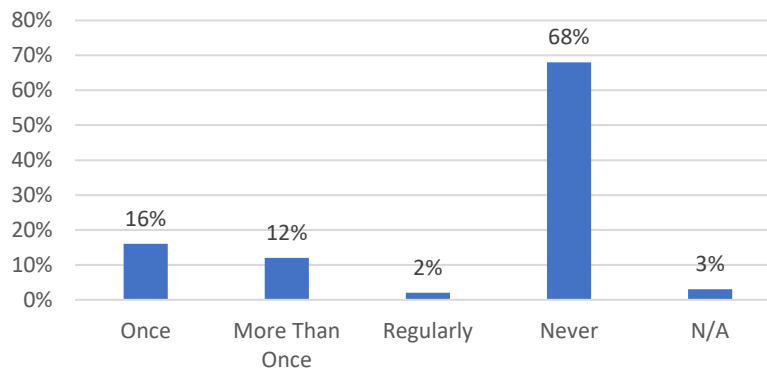
Copying from another student during an exam without his or her knowledge.



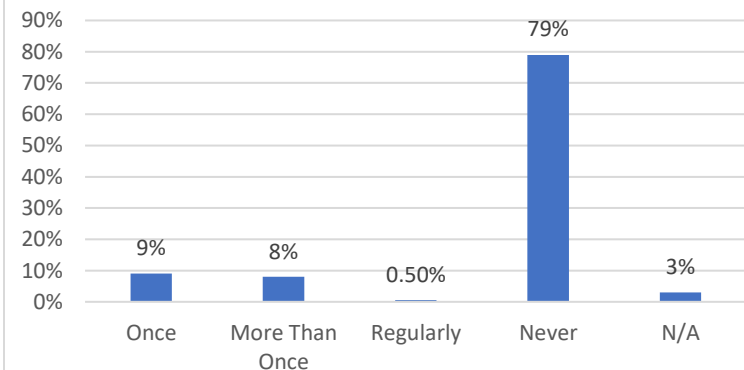
Using digital technology (such as text messaging) to get unpermitted help from someone during an exam.



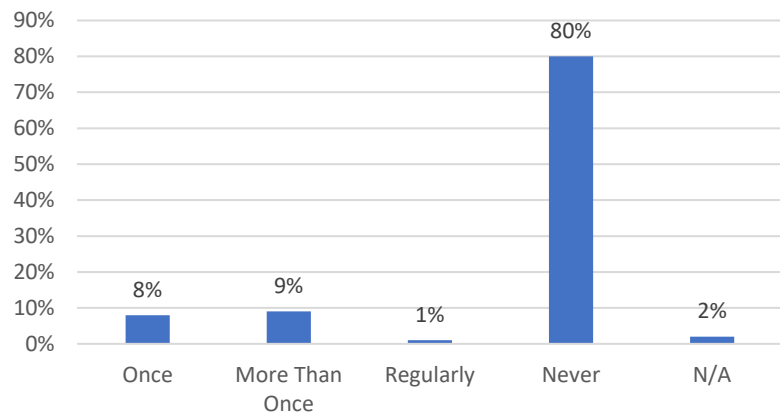
Using unpermitted handwritten crib notes (or cheat sheets) during an exam.



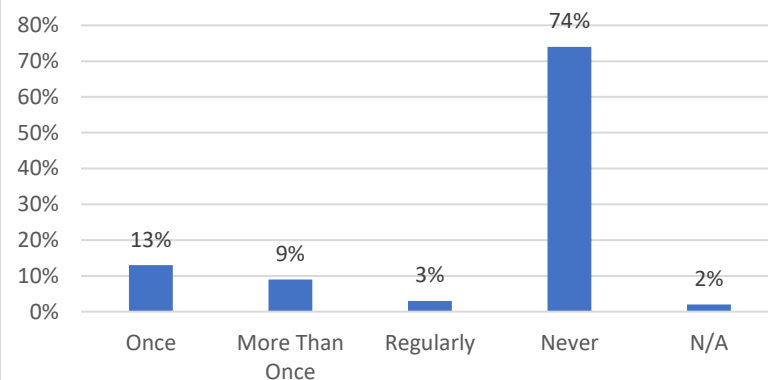
Using electronic crib notes (stored in tablet, phone, or other device) to cheat on an exam.



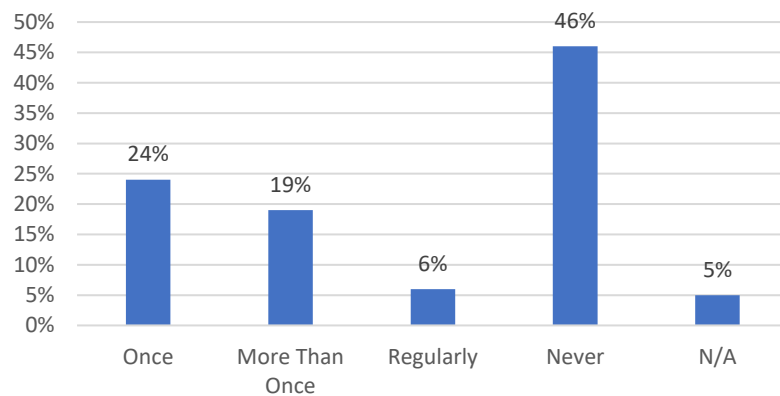
Using an electronic/digital device as an unauthorized aid during an exam.



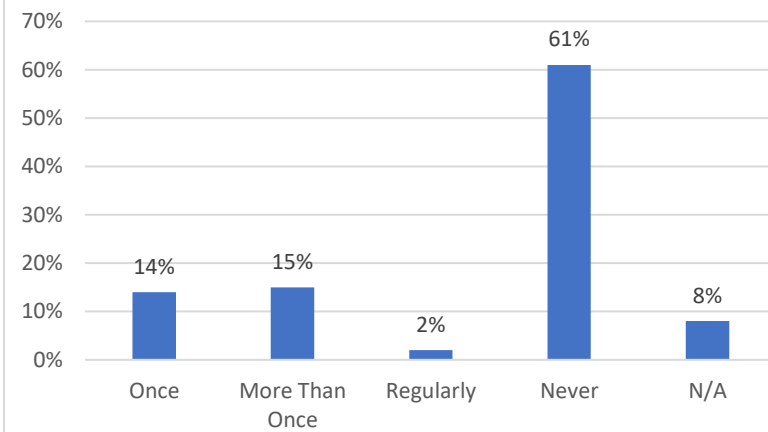
Using a false or forged excuse to obtain an extension on a due date or delay taking an exam.



Sharing the scenario of a practical evaluation with a classmate who has not yet been assessed.

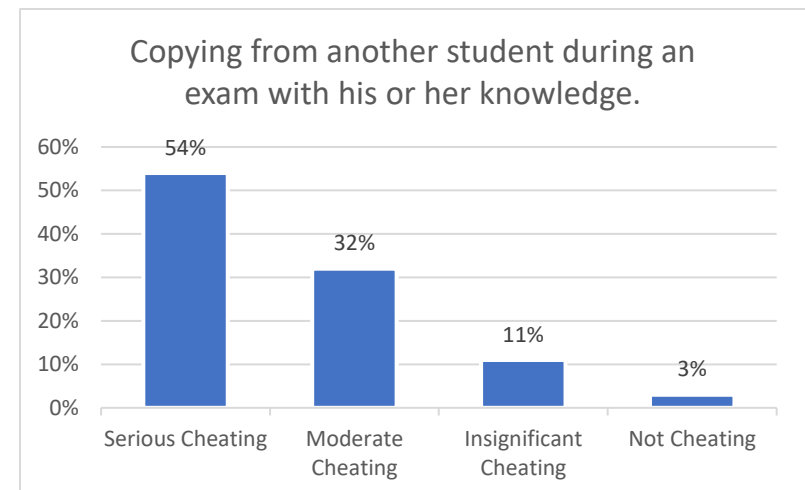
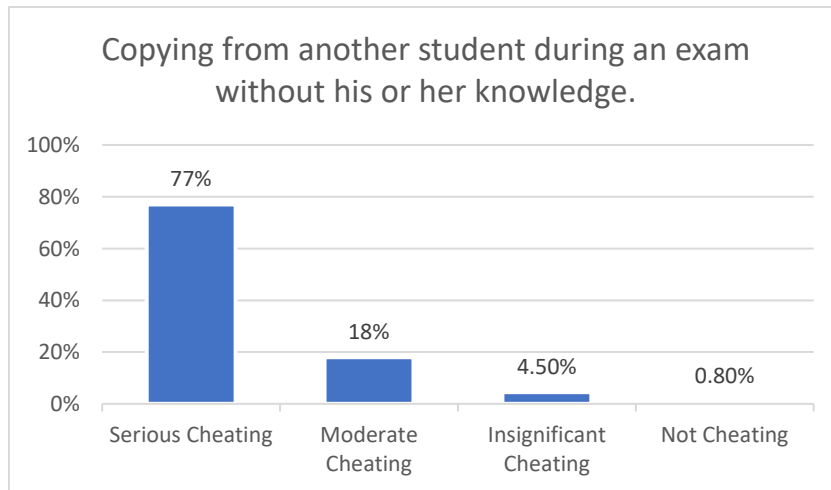
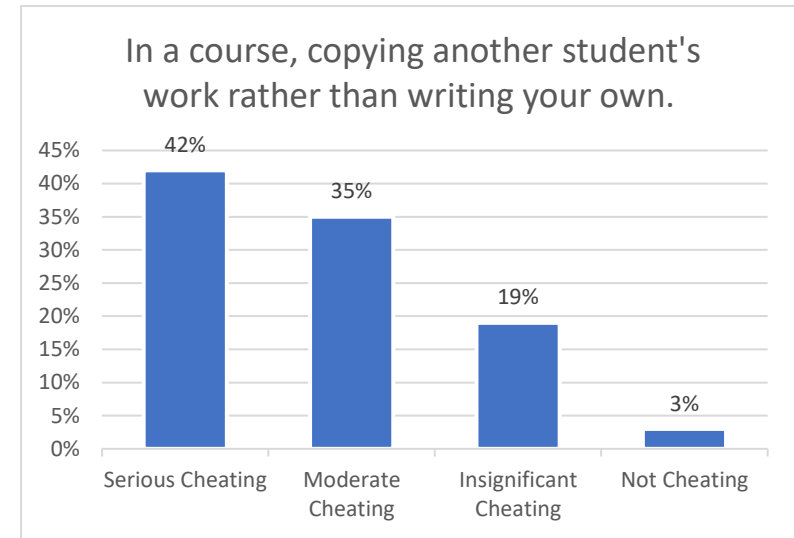
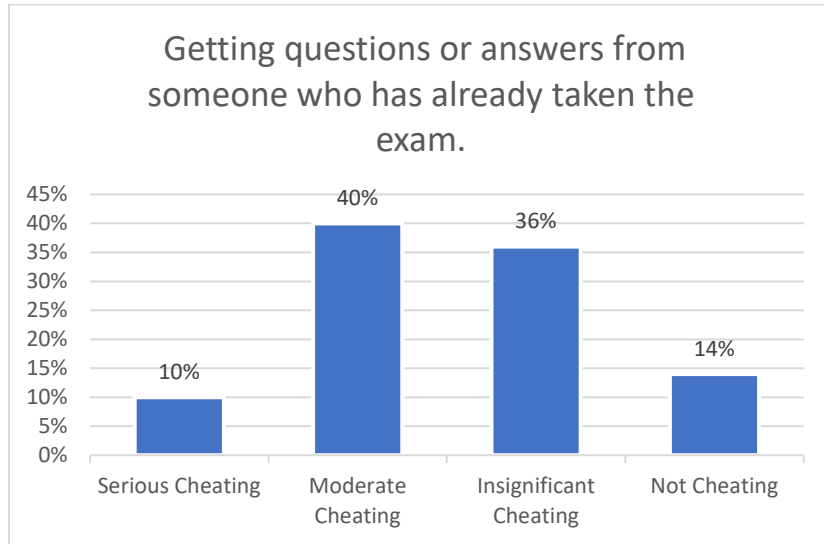


Cheating on an exam in any other way.



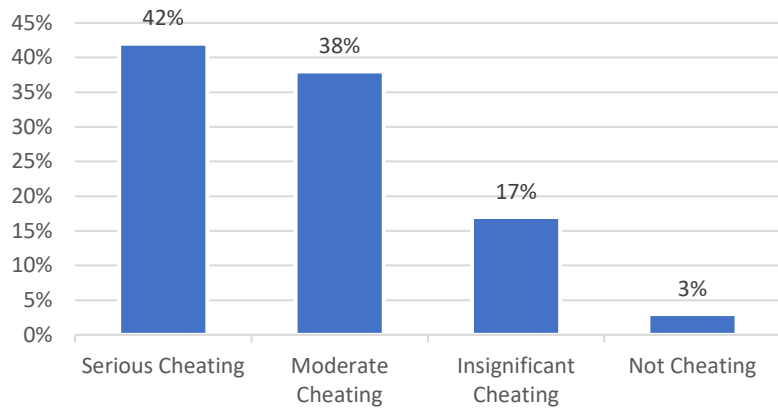
## CHARTS 2:

Answers to question: How serious is the behaviour, in your opinion?

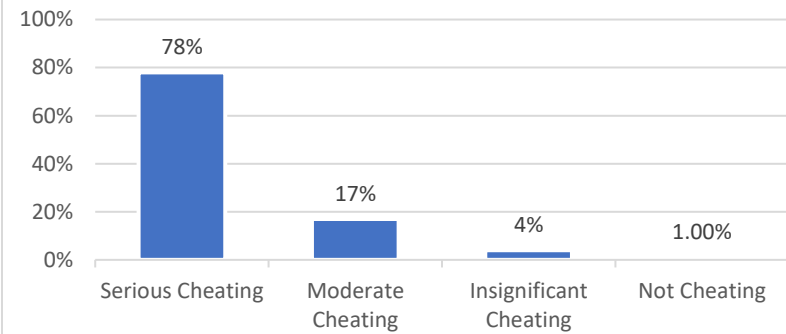




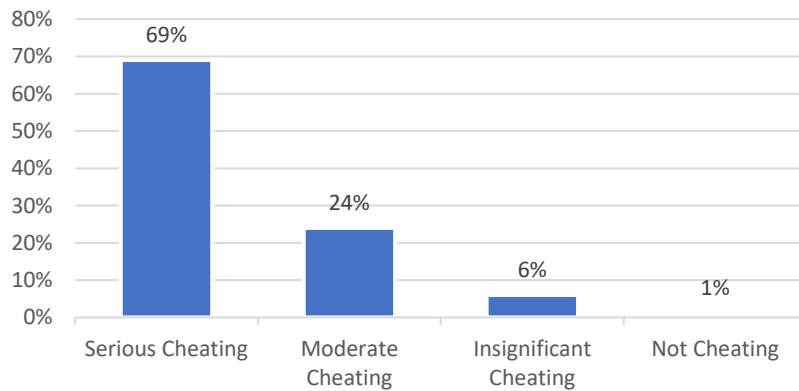
Helping someone else cheat on an exam.



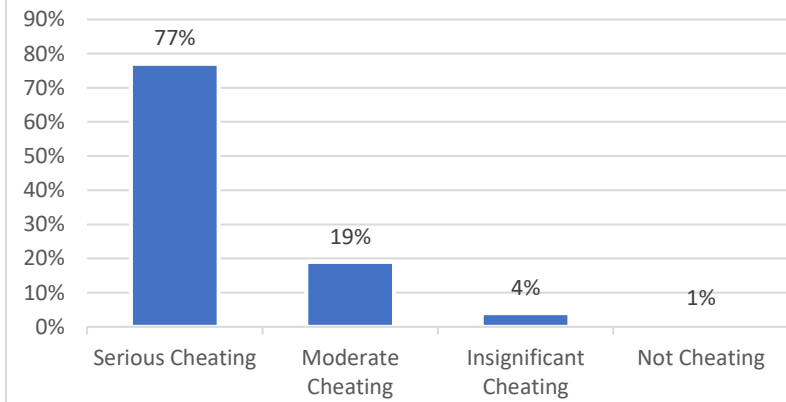
Using digital technology (such as text messaging) to get unpermitted help from someone during an exam.



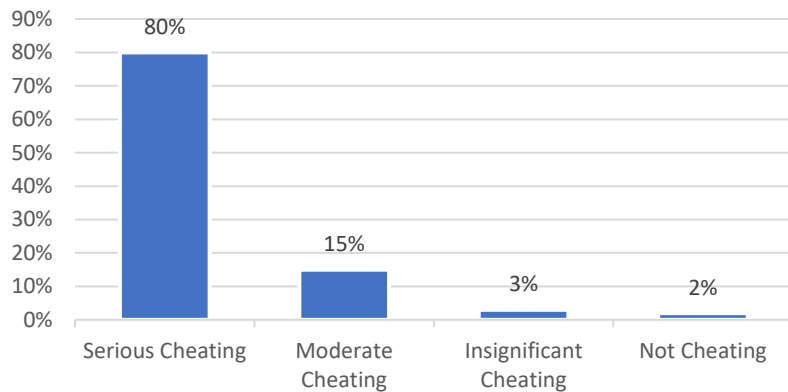
Using unpermitted handwritten crib notes (or cheat sheets) during an exam.



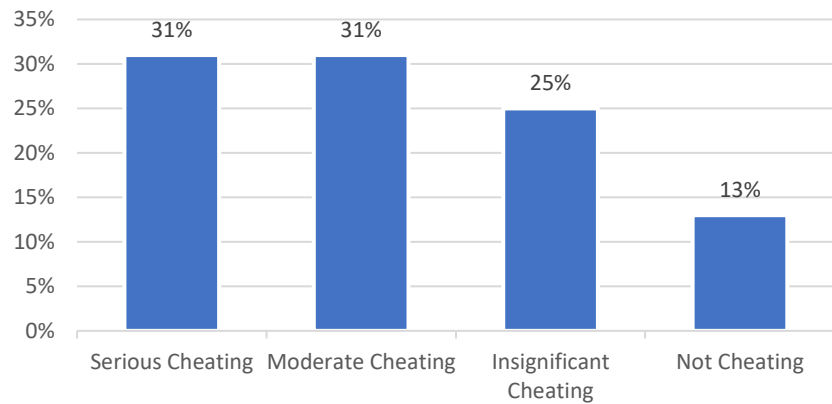
Using electronic crib notes (stored in tablet, phone, or other device) to cheat on an exam.



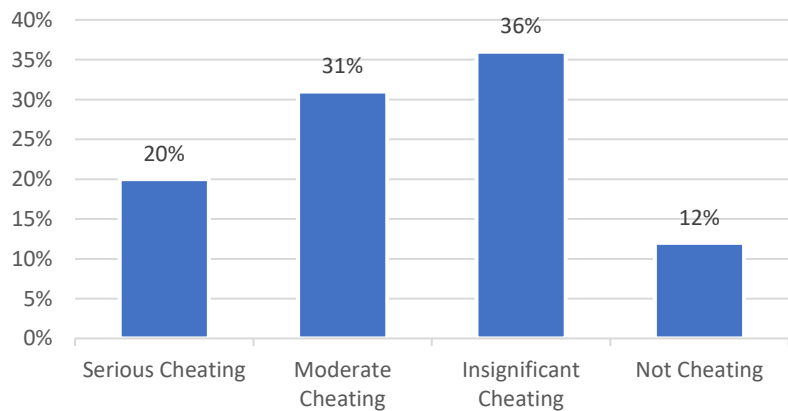
Using an electronic/digital device as an unauthorized aid during an exam.



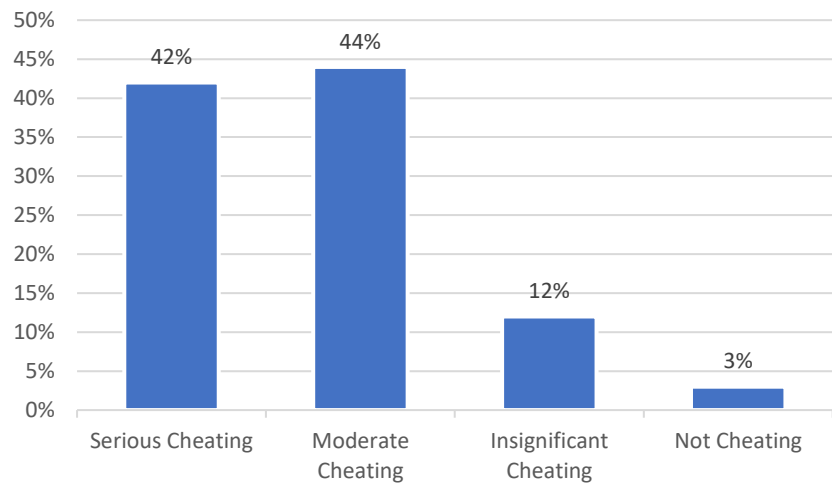
Using a false or forged excuse to obtain an extension on a due date or delay taking an exam.



Sharing the scenario of a practical evaluation with a classmate who has not yet been assessed.



Cheating on an exam in any other way.



**Appendix C**  
**REB Approval Form**



## Certificate of Ethics Approval

Name of Applicant: Anne-Marie Gremeaux

Institution: Cegep John Abbott College

Title of Project: Cheating in CEGEP: Causes and Possible Solutions.

Certificate Number: JACREB201812

Email: [annemarie.gremeaux@johnabbott.qc.ca](mailto:annemarie.gremeaux@johnabbott.qc.ca)

The members of the John Abbott College Research Ethics Board have examined the application and consider the experimental procedures as outlined by the applicant to be on acceptable on ethical grounds for research involving human participants. A final report summarizing the findings should be submitted to John Abbott College within six months of the completion of the study. This approval of research ethics does not guarantee that CEGEP John Abbott College will provide access to any institutional services, such as Data Mining.

A handwritten signature in blue ink, appearing to read "lshillington".

A handwritten signature in blue ink, appearing to read "Shireef Darwish".

Co-Chairs: Laura Shillington and Shireef Darwish

**Appendix D**  
**Consent Form**

## **SAMPLE ONLINE SURVEY CONSENT**

### **Consent to Participate in Research**

#### **Cheating in CEGEP: Causes and Possible Solutions.**

#### **INTRODUCTION AND PURPOSE**

My name is Anne-Marie Gremeaux. I am a teacher at John Abbot College in the Department of Youth and Adult Correctional Intervention. I would like to invite you to take part in my research study, which concerns new classroom pedagogies and assessment. The goal of the study will be to determine whether students cheat because of the pressure they are under in order to perform or because of the type of in-class examination they are writing.

#### **WHAT YOU ARE BEING ASKED TO DO**

You are being asked to voluntarily complete this on-line survey. It involves multiple choice questions about stress, pressure to perform, exam types and academic dishonesty. and should take about 10 minutes to complete. In order for all of your answers to be collected you must go to the end of the survey and click 'submit survey'. This will demonstrate your full consent to participation.

#### **POTENTIAL BENEFITS**

There is no direct benefit to you for taking part in this study. It is hoped that the research will help understand academic dishonesty and improve assessment types for future students.

#### **WHAT ARE THE POTENTIAL RISKS TO YOU**

Some of the survey questions may make you uncomfortable or upset or you may simply wish not to answer some questions. You are free to decline to answer any questions you do not wish to answer, or stop participating at any time by closing your browser. If you close your browser before getting to the end of the survey and do not confirm your consent to participate at the end of the survey by clicking the 'submit' button your information collected up to that point will not be used.

## **YOUR IDENTITY WILL BE FULLY ANONYMOUS**

The survey is anonymous and as such will not be collecting information that will easily identify you, like your name or other unique identifiers. Although your Internet Protocol (IP) address can be tracked through the survey platform, the researcher/s will not be collecting this information.

Your IP address may be observed only to ensure that one individual is not completing the survey multiple times.

## **HOW YOUR INFORMATION WILL BE PROTECTED AND STORED**

This survey uses Survey Monkey™, which is a United States of American (USA) company. This survey uses Survey Monkey™ and the servers are located in Canada, however personal information may be disclosed to Fluidsurveys' affiliates located in the USA. Consequently, USA authorities under the provisions of the Patriot Act may access the survey data. If you would rather participate with an email or paper-based survey, please contact the researchers. Please note email or paper-based surveys may allow your identity to be known to the researcher/s but if you select this option your information will be kept confidential.

To further protect your information, data stored by the researcher will be password protected and/or encrypted. Only the researcher named in this study will have access to the data as collected. Any future publications will include collective information (i.e., aggregate data). Your individual responses (i.e. raw data) will not be shared with anyone outside of the research team.

When the research is completed, the researcher will keep the data for up to 12 months after the study is over.

## **INCENTIVE FOR PARTICIPATION**

You will not be paid for taking part in this study.

## **YOUR RIGHTS AS A RESEARCH PARTICIPANT**

Participation in research is completely voluntary and you can withdraw your consent at any point *up to* clicking the submit button at the end of the survey. However, because the survey is anonymous, once you click the submit button at the end of the survey the researchers will not be

able to determine which survey answers belong to you, so your information cannot be withdrawn after that point.

Please note, that by clicking submit at the end of the study you are providing your consent for participation. By consenting to participate you are not waiving any of your legal rights as a research participant.

## **QUESTIONS**

If you have any questions about this research, please feel free to contact the researcher and/or her supervisor.

Anne-Marie Gremeaux, 514-457-6610 ext.5743, [annemarie.gremeaux@johnabbott.qc.ca](mailto:annemarie.gremeaux@johnabbott.qc.ca)  
Stephen Taylor (supervisor), [stevetaylorphd@hotmail.com](mailto:stevetaylorphd@hotmail.com)

If you have any questions about your rights or treatment as a research participant in this study, please contact the John Abbott College Research Ethics Board at [REB@johnabbott.qc.ca](mailto:REB@johnabbott.qc.ca).

Please print a copy of this page for your future reference.

## **START SURVEY**

By clicking SUBMIT I am consenting to participate in this study.